

RESTRICTED

IONOSPHERIC DATA

ISSUED

OCTOBER 1944

PREPARED BY INTERSERVICE RADIO PROPAGATION LABORATORY
National Bureau of Standards
Washington, D.C.

UNCLASSIFIED

"This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, 50 U.S.C., 31 and 32. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law."

Organized under Joint U.S. Communications Board

IONOSPHERIC DATA

This IRPL-F-series report, issued monthly, serves as one of the three current supplements to IRPL Radio Propagation Handbook, Part 1, (War Dept. TM11-499, Navy Dept. DNC-13-1). The supplements of the IRPL-D series, "Basic Radio Propagation Predictions Three Months in Advance," issued earlier in the month, include basic prediction charts, auxiliary charts and nomograms, as well as examples illustrative of their use. The supplements of the IRPL-E series, "Radio Propagation Predictions One Month in Advance", include revisions two months later of certain of the predictions given in the D series, and nomograms giving predictions in a form for rapid operational use. Before Sept. 1944 most of the material was combined in the single report, "Radio Propagation Conditions".

CONTENTS

TERMINOLOGY	Page 5
MONTHLY AVERAGES AND MEDIAN VALUES OF IONOSPHERIC DATA	Page 6

Monthly averages of critical frequencies, virtual heights and F2-layer maximum usable frequency factors; median values of highest frequency of Es reflections, and (graphical presentation only) percentage of total time of occurrence of Es above 3, 5, and 7 Mc.

Provisional data (received by telephone or telegraph)

September, 1944

Baffin Is., Canada	Table 1
Fairbanks, Alaska	Table 2
Reykjavik, Iceland	Table 3
Snainton, England	Table 4
Great Baddow, England	Table 5
Maui, Hawaii	Table 6
Trinidad, Brit. West Indies	Table 7
Huancayo, Peru	Table 8
Brisbane, Q., Australia	Table 9
Kermadec Is.	Table 10
Watheroo, W. Australia	Table 11
Simonstown, Union of S. Africa	Table 12
Mt. Stromlo, N.S.W., Australia	Table 13
Christchurch, N.Z.	Table 14
Campbell Is.	Table 15

August, 1944

Snainton, England	Table 16
Brisbane, Q., Australia	Table 17
Mt. Stromlo, N.S.W., Australia	Table 18

Final data

September, 1944

Churchill, Canada	Table 19
	Figs. 1 and 2
Ottawa, Canada	Table 20
	Figs. 3 and 4
Washington, D.C.	Table 21
	Figs. 5 and 6
San Francisco, California	Table 22
	Figs. 7 and 8
Baton Rouge, Louisiana	Table 23
	Figs. 9 and 10
San Juan, Puerto Rico	Table 24
	Figs. 11 and 12

August, 1944

Fairbanks, Alaska	Table 25
	Figs. 13 and 14
Churchill, Canada	Figs. 15 and 16
Burghead, Scotland	Fig. 17
Final data are identical with provisional data presented in September issue of this report, Table 4.	
Great Baddow, England	Table 26
	Figs. 18 and 19
Slough, England	Table 26
	Fig. 18
Ottawa, Canada	Figs. 20 and 21
San Francisco, California	Figs. 22 and 23
Baton Rouge, Louisiana	Figs. 24 and 25
Maui, Hawaii	Table 27
	Figs. 26 and 27
San Juan, Puerto Rico	Figs. 28 and 29
Trinidad, Brit. West Indies	Table 28
	Figs. 30 and 31
Huancayo, Peru	Table 29
	Figs. 32 and 33
Kermadec Is.	Table 30
	Fig. 34
Christchurch, N.Z.	Table 31
	Figs. 35 and 36
Campbell Is.	Fig. 37

Final data are identical with provisional data
presented in September issue of this report, Table 11.

July, 1944

Burghead, Scotland	Fig. 38
Sverdlovsk, U.S.S.R.	Table 32
	Figs. 39 and 40
Tomsk, U.S.S.R.	Table 33
	Figs. 41 and 42
Great Baddow, England	Table 34
	Figs. 43 and 44
Slough, England	Fig. 43
Baton Rouge, Louisiana	Table 35
Delhi, England	Table 36
Brisbane, Q., Australia	Table 37
	Figs. 45 and 46
Kermadec Is.	Fig. 47
Mt. Stromlo, N.S.W., Australia	Table 38
	Figs. 48 and 49
Christchurch, N.Z.	Table 39
Campbell Is.	Fig. 50

June, 1944

Fairbanks, Alaska	Figs. 51 and 52
Reykjavik, Iceland	Figs. 53 and 54
Churchill, Canada	Figs. 55 and 56
Great Baddow, England	Figs. 57 and 58
Maui, Hawaii	Figs. 59 and 60
Trinidad, Brit. West Indies	Figs. 61 and 62
Brisbane, Q., Australia	Figs. 63 and 64
Watheroo, W. Australia	Figs. 65 and 66
Mt. Stromlo, N.S.W., Australia	Figs. 67 and 68
Christchurch, N.Z.	Figs. 69 and 70

May, 1944

Watheroo, W. Australia	Table 40
	Figs. 71 and 72

April, 1944

Watheroo, W. Australia	Figs. 73 and 74
----------------------------------	-----------------

March, 1944

Watheroo, W. Australia	Figs. 75 and 76
----------------------------------	-----------------

IONOSPHERIC DATA FOR EVERY DAY AND HOUR	Page 8
---	--------

September, 1944Washington, D.C.

h'F2	Table 41
f°F2	Table 42
h'F1	Table 43
f°F1	Table 44
h'E	Table 45
f'E	Table 46
Es	Table 47
F2-M1500	Table 48
F2-M3000	Table 49
F2-M3500	Table 50
F1-M1500	Table 51
E-M1500	Table 52

IONOSPHERE DISTURBANCES	Page 9
-----------------------------------	--------

Ionospheric storminess	Table 53
----------------------------------	----------

Ionospheric character and principal storms observed
at Washington, D.C., September, 1944.

Magnetic character

Sudden Ionosphere Disturbances. - None observed at
Washington, D.C., during September.

ERRATA	Page 9
------------------	--------

ADDENDA	Page 9
-------------------	--------

TERMINOLOGY

Note.— The following symbols are used, conforming to the recommendations of the International Radio Propagation Conference held in Washington, D.C., 17 April to 5 May 1944.

- $f^{\circ}F2$ - ordinary-wave critical frequency for the F2 layer. The term night F layer will no longer be used. The term F2 layer is now used for the night F layer as well as the daytime F2 layer.
- $f^{\circ}F1$ - ordinary-wave critical frequency of the F1 layer.
- $f^{\circ}E$ - ordinary-wave critical frequency of the E layer.
- $h'F2$ - minimum virtual height of the F2 layer.
- $h'F1$ - minimum virtual height of the F1 layer.
- $h'E$ - minimum virtual height of the E layer.
- fEs - highest frequency of Es reflections.
- M - maximum usable frequency factor, to be followed by the distance in km.
Example: M3500 represents 3500-km maximum usable frequency factor.
- muf - maximum usable frequency.
- [] - interpolated value.
- () - doubtful value.
- A - characteristic not measurable because of blanketing by sporadic E.
- B - characteristic not measurable because of loss of trace due to absorption.
- C - characteristic not measurable because of equipment failure or interference.
- D - characteristic higher than upper limit of recorder.
- E - characteristic less than lower limit of recorder.
- F - spread echoes.
- G - $f^{\circ}F2 \leq f^{\circ}F1$.
- H - stratification observed within region.
- J - ordinary-wave critical frequency deduced from measured extraordinary-wave critical frequency.
- K - ionosphere storm in progress.

MONTHLY AVERAGES AND MEDIAN VALUES OF IONOSPHERIC DATA.

The tables and graphs of ionospheric data presented here are assembled by the Interservice Radio Propagation Laboratory for analysis and correlation principally incidental to IRFL predictions of radio propagation conditions. These data are furnished by the following:

Carnegie Institution of Washington (Department of Terrestrial Magnetism).
 Baffin Is., Canada
 Fairbanks, Alaska (University of Alaska, College, Alaska)
 Reykjavik, Iceland
 Maui, Hawaii
 Trinidad, Brit. West Indies
 Huancaayo, Peru
 Watheroo, W. Australia

British National Physical Laboratory, and Inter-Services Ionosphere Bureau.
 Radio Research Station, Slough, England
 Great Baddow, England
 Burghead, Scotland
 Delhi, India

Australian Council for Scientific and Industrial Research.
 Radio Research Board, Australia
 Brisbane, Q., Australia
 Mt. Stromlo, Canberra, NSW, Australia.

Canadian Department of National Defence, Naval Service.
 Churchill, Canada
 Ottawa, Canada.

New Zealand Radio Research Committee.
 Kermadec Is.
 Christchurch (Canterbury University College Observatory)
 Campbell Is.

Peoples' Commissar for Postal and Electric Communications, Moscow, U.S.S.R.
 Tomsk, U.S.S.R.
 Sverdlovsk, U.S.S.R.

National Bureau of Standards, Washington, D.C.
 Stanford University, (San Francisco), California.
 Louisiana State University, Baton Rouge, Louisiana.
 University of Puerto Rico, San Juan, P.R.

For their timely value, some of the tables presented are provisional data received by telephone or telegraph in which there may be small or infrequent errors. When final values are available such errors will be corrected in later issues of this report.

The final values presented, both in tabular and graphical form, although correct for the quantities stated, as reported to this laboratory,

may sometimes lead to an erroneous conception of typical values for the quantity under consideration. Standard scaling practice, following recommendations of the International Radio Propagation Conference held in Washington, D.C., 17 April to 5 May, 1944, is not yet universal, deviation from standard practice being most common in the cases of records where spread echoes are present. Even when standard scaling practice is used, intrinsically misleading results may arise from the monthly average being determined from only a few observations during the month. Two frequent types of such error, both particularly typical of stations in far northern or far southern latitudes are:

(a) Erroneously high values of monthly average critical frequencies caused by the frequent absence of record for cases where the critical frequency is below the lower frequency limit of the recorder. A median, rather than a mean, value of the critical frequency is more significant in such cases, the median being that for all times at which observations were made, the cases of such inability to read the records being counted as less than the lower frequency limit of the apparatus.

(b) Erroneously high values of monthly average F2-layer critical frequencies caused by the frequent occurrence of cases where the F1-layer critical frequency exceeds that of the F2-layer. This is characteristic of summer months during sunspot-cycle minimum, particularly in northern latitudes. In this case, also, median values are more significant than mean values, the median being that for all cases where observations are made, those cases where missing values result because of higher f^oF1 being counted as less than the f^oF1 . When, as is often the case, no great discrepancy is likely to exist between f^oF1 and f^oF2 , a typical value of f^oF2 may be obtained by taking the monthly average of observed f^oF2 together with observed f^oF1 for the cases where no f^oF2 could be measured.

The discrepancy between predicted and observed values of monthly average critical frequencies, particularly for far northern stations, is frequently because of the above reasons, the predictions being intended to represent typical values for the location under consideration.

It may be noted by inspection of the figures presenting comparison of data received for the months of August, September, and October with IRPL predictions made four months in advance, that, generally, the predictions have been in error by being too low, especially in temperate latitudes.

These predictions are based on average trends of color activity as measured by sunspot number. In the past few months this activity has been somewhat abnormally high. Occurrence of both sunspots and calcium flocculi during the past few months has been slightly more frequent at high than at low solar latitudes, indicating that perhaps the sunspot minimum has just been passed.

Because of great fluctuations in solar activity, however, an observation period of but a few months is so short as to render a final conclusion as to this premature as yet.

IONOSPHERIC DATA FOR EVERY DAY AND HOUR

These data, observed at Washington, D.C., follow the scaling practices recommended by the International Radio Propagation Conference held in Washington, D.C., 17 April to 5 May 1944. (Cf. IRPL-C61, pp.36-39).

In order to obtain typical values of monthly average f^oF2 , for cases where the f^oF2 falls below the f^oF1 , values of f^oF1 are used in taking the average, such cases being indicated in Table 42 by the symbol G, and a "less than" sign before the f^oF1 value inserted.

Because of the high variability of observed fEs , mean values are of little practical significance and are not given here.

Mean values of other quantities are given for all days of the month as well as for quiet days only. The criteria for selecting periods of ionospheric storminess, whose data are deleted in obtaining the mean values for quiet days only, are presented in IRPL-R5, "Criteria for Ionospheric Storminess", available to authorized persons upon request to the Chief of IRPL, National Bureau of Standards, Washington 25, D.C.

In determining the median values included in Tables 41 through 52, the following procedure has been adopted:

For all characteristics: Where the value is missing because of A, B, or C (see Terminology, above), that hour is omitted from the median count.

In addition,

For critical frequencies:

For all layers, where a value is missing because of E (see Terminology, above), it is counted as less than the lower limit of the recorder.

Where a value of f^oF2 is missing because of G (see Terminology, above), it is counted as less than the f^oF1 value for the same time.

Where values of f^oE and f^oF1 are missing at the beginning or end of the diurnal curve, they are counted as less than the median frequency.

For virtual height:

Where a value of $h'F2$ is missing because of G (Cf. preceding section, Terminology, of this report), it is counted as greater than the median value.

For all virtual heights, values missing for any other reason than that given in the preceding paragraph are omitted from the median count.

For muf factors:

Values missing for any reason are omitted from the median count.

IONOSPHERIC DISTURBANCES

Table 53 presents ionospheric character figures and principal storms observed at Washington, D.C., during September 1944, as determined by the criteria presented in IRPL-R5, cited above, together with American magnetic K-figures which are usually covariant with them.

ERRATA

1. In the previous (September) issue of this report, the designations of the month were omitted from two tables of data presented, although proper designation was given in the table of contents. Table 4 should be designated "August, 1944". Table 20 should be designated "July, 1944."

2. In the September issue of this report, Table 10, the values given in the columns for h'F1 and h'E should be interchanged.

3. In the September issue of this report, the value of noon h'F2 for Slough, England, as given at the end of Table 20, is erroneous and should be deleted.

4. In the September issue of this report, heading of Table 40, the value of E₀ for 1 mile should be " = 2460 millivolts per meter."

ADDENDA

In the September issue of this report, Tables 10 and 25, the times of reporting data from Christchurch, N.Z., should be those of 172.5°E.

Table 1

Baffin Island, Canada (70.5°N, 68.6°W)

September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	FEs	F2-M3000
00	260	2.82						3.5
01	275	2.71						3.6
02	270	2.54						3.8
03	276	2.71						3.6
04	259	2.87						3.4
05	247	3.27						3.4
06	261	3.58						3.4
07	269	3.88						3.2
08	296	4.18						3.2
09	310	4.43						3.2
10	317	4.74	226	3.68	133	2.37		3.2
11	328	4.67	228	3.61	120	2.47		3.2
12	334	4.52	224	3.59	117	2.44		3.2
13	299	4.64	223	3.51	127	2.40		3.2
14	337	4.55	219	3.44	138	2.38		3.0
15	289	4.58	228	3.53	143	2.38		3.1
16	274	4.47	219	3.09	133	2.27		3.1
17	258	4.35	238	2.90				3.2
18	241	4.22						3.2
19	238	4.08						3.2
20	246	3.71						3.2
21	246	3.49						3.3
22	246	3.12						3.5
23	251	2.93						3.5

Time: 750°.

Length of time sweep: 2 Mc to 16 Mc in one minute. Supplemented by manual apparatus with low frequency limit 1.6 Mc.

Table 2

Fairbanks, Alaska (64.9°N, 147.6°W)

September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	FEs	F2-M3000
00	312	2.28						2.9
01	306	2.28						2.8
02	325	2.40						2.8
03	355	2.42						2.9
04	319	2.30						3.0
05	290	2.71	305	3.20	103	1.58		3.0
06	327	3.30	246	3.20	103	1.81		3.0
07	324	3.73	228	3.32	103	2.05		3.0
08	361	4.07	219	3.44	103	2.27		3.0
09	353	4.25	212	3.59	103	2.42		2.9
10	373	4.44	207	3.71	103	2.54		2.9
11	354	4.57	208	3.77	103	2.80		3.0
12	345	4.64	215	3.62	103	2.63		3.0
13	329	4.63	218	3.75	103	2.56		3.0
14	319	4.58	217	3.64	103	2.45		3.1
15	285	4.55	223	3.49	103	2.30		3.1
16	246	4.49	225	3.26	103	2.07		3.2
17	245	4.28	248	3.25	103	1.77		3.2
18	242	3.86			103	1.39		3.2
19	260	3.24			103	1.15		3.1
20	273	2.78						3.0
21	284	3.40						3.0
22	293	2.30						3.0
23	300	2.40						3.0

Time: 1500°.

Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.

Table 3

Reykjavik, Iceland (64.1°N, 21.7°W)

September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	FEs	F2-M3000
00								
01	500	5.00						3.0
02	350	3.20						2.9
03								
04	280	3.50						3.0
05	305	2.70						3.4
06	336	3.19	250	3.50	100	2.60		3.4
07	213	3.79	200	3.79	107	2.50		3.3
08	219	4.17	247	4.00	107	2.50		3.3
09	225	4.56	203	3.73	102	2.60		3.3
10	276	4.76	206	3.81	100	2.54		3.3
11	285	4.82	193	3.89	98	2.63		3.2
12	282	5.09	203	3.96	97	2.77		3.3
13	278	5.08	203	3.97	97	2.71		3.2
14	283	5.13	201	3.84	101	2.65		3.2
15	256	5.07	202	3.80	100	2.59		3.2
16	246	5.06	212	3.70	109	2.62		3.2
17	220	4.98	200	3.57	133	2.43		3.2
18	220	4.84						3.3
19	217	4.65						3.4
20	210	4.47						3.4
21	210	4.30						3.5
22	240	3.20						3.6
23	250	2.90						3.3

Time: 1800°.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 4

Snainton, England (54.2°N, 0.6°W)

September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	FEs	F2-M3000
00								
01		3.0						
02		2.9						
03		2.8						
04		2.9						
05		2.8						
06		2.8						
07		4.2						
08		4.5						
09		4.8						
10		5.1						
11		5.2						
12		5.2						
13		5.1						
14		5.1						
15		5.1						
16		5.2						
17		5.2						
18		5.2						
19		5.2						
20		4.7						
21		4.4						
22		3.5						
23		3.2						

Time: 00

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 5

Great Baddow, England (51.7°N, 0.5°E) September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.3						2.9
01		3.2						2.9
02		3.1						2.9
03		3.1						2.9
04		3.0						2.8
05		2.8						3.1
06		3.7						3.4
07		4.4						3.4
08		4.9						3.4
09		5.2						3.4
10		5.4						3.4
11		5.5						3.2
12		5.4						3.2
13		5.4						3.2
14		5.4						3.2
15		5.4						3.2
16		5.4						3.2
17		5.5						3.2
18		5.9						3.2
19		6.1						3.1
20		5.6						3.1
21		4.7						3.1
22		4.0						3.0
23		3.5						2.9

Time: 0°

Length of time sweep: Manual operation.

Table 6

Maui, Hawaii (20.8°N, 156.6°W) September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	268	4.10						3.0
01	261	4.08						3.2
02	242	4.02						3.4
03	230	3.59						3.6
04	245	3.07						3.3
05	253	2.94						3.4
06	267	3.01						3.2
07	231	5.47	224	3.66	112	2.25		3.4
08	267	6.68	212	4.14	112	2.73		3.4
09	297	6.76	204	4.51	110	3.13		3.1
10	338	7.57	203	4.67	109	3.28		2.9
11	350	8.65	207	4.67	118	3.42		2.9
12	336	9.73	205	4.68	113	3.47		3.0
13	316	10.40	206	4.62	114	3.47		3.0
14	304	10.72	209	4.63	115	3.39		3.2
15	286	10.80	218	4.47	114	3.21		3.2
16	265	10.80	212	4.26	110	2.87		3.3
17	238	10.15	222	3.85	110	2.54		3.5
18	216	8.47	219					3.6
19	231	5.94						3.4
20	231	4.89						3.2
21	252	4.27						3.1
22	281	3.82						2.9
23	281	4.01						3.0

Time: 150°W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 7

Trinidad, British West Indies (10.6°N, 61.3°W) September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	292	3.67						2.9
01	273	4.14						3.0
02	262	3.76						3.2
03	252	3.58						3.2
04	252	3.40						3.3
05	258	3.04						3.3
06	243	3.76						3.3
07	260	5.44	235	3.70		2.51		3.4
08	298	6.04	234	4.22	114	2.87		3.3
09	303	6.59	237	4.47	(113)	3.17		3.1
10	335	7.31	228	4.56	113	3.37		3.0
11	345	8.09	224	4.60	112	3.48		2.9
12	338	8.91	217	4.58	113	3.51		3.0
13	332	9.60	216	4.54	113	3.50		3.1
14	308	10.33	232	4.46	112	3.39		3.2
15	289	10.55	225	4.32	111	3.12		3.2
16	281	9.99	232	4.11	113	2.78		3.3
17	261	9.39	230	3.62		2.40		3.3
18	240	8.40						3.3
19	233	6.79						3.2
20	235	6.70						3.1
21	246	4.94						2.9
22	290	4.09						2.8
23	306	3.61						2.8

Time: 60°W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 8

Huancayo, Peru (12.0°S, 75.3°W) September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	234	6.03						3.2
01	235	5.62						3.3
02	234	5.06						3.3
03	238	4.19						3.3
04	251	3.40						3.1
05	272	2.96						3.2
06	247	4.28				1.73		3.3
07	228	6.39				2.48		3.3
08	314	7.39	215	4.24		2.94		3.0
09	348	7.37	208	4.42		3.30		2.6
10	368	7.06	203	4.46				2.6
11	381	6.93	202	4.48				2.5
12	385	6.82	201	4.49				2.5
13	371	6.94	200	4.45		3.65		2.6
14	360	7.25	200	4.41				2.6
15	334	7.49	200	4.25		3.04		2.7
16	231	7.71	208	4.07		2.70		2.7
17	239	7.69				2.21		2.7
18	205	7.67				1.05		2.8
19	302	6.61						2.8
20	292	6.77						3.0
21	260	6.98						3.2
22	234	7.15						3.3
23	230	6.82						3.3

Time: 75°W.

Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.

Table 9

Brisbane, Q., Australia (27.50S, 153.00E) September, 1944.

Time	h'F2	f'F2	h'F1	f'F1	h'E	f'E	F2-M3000
00		4.0					3.4
01		3.9					3.3
02		3.9					3.6
03		3.3					3.4
04		3.0					3.2
05		2.9					3.2
06		3.6					3.3
07		5.0					3.4
08		5.9					3.5
09		6.4					3.4
10		6.7					3.4
11		6.6					3.4
12		6.6					3.5
13		6.6					3.4
14		6.3					3.4
15		6.0					3.5
16		5.6					3.5
17		5.3					3.5
18		5.0					3.4
19		4.8					3.3
20		4.4					3.2
21		4.4					3.1
22		4.3					3.2
23		4.2					3.3

Time: 150°E.

Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes, thirty seconds.

Table 10

Kermadec Island (29.2°S, 177.9°E) September, 1944

Time	h'F2	f'F2	h'F1	f'F1	h'E	f'E	F2-M3000
0015	265	4.00					
0100							
0200							
0310	249	2.89					
0400	285	2.72					
0500	294	2.58					
0600	267	3.43					
0700	260	5.19					
0800	273	5.92					
0900	281	6.11					
1000	295	5.95					
1100	301	6.21					
1200	297	6.69					
1300	283	6.68					
1400	281	6.28					
1500	261	6.01					
1600	266	5.66					
1700	249	5.35					
1800	239	4.92					
1850	258	4.82					
2000	275	4.49					
2100	286	4.41					
2200							
2300							

Time: Local.

Length of time sweep: 1.3 Mc to 12.6 Mc. Manual operation.

Table 11

Watheroo, Western Australia (30.3°S, 115.9°E). September, 1944

Time	h'F2	f'F2	h'F1	f'F1	h'E	f'E	F2-M3000
00	244	3.59					3.0
01	241	3.62					3.1
02	231	3.71					3.2
03	225	3.59					3.2
04	232	3.35					3.1
05	204	3.40					3.1
06	245	3.61					3.2
07	244	4.76					3.4
08	271	5.18					3.5
09	307	5.61					3.2
10	314	5.74					3.2
11	315	6.17					3.1
12	296	6.67					3.3
13	283	6.89					3.3
14	281	6.44					3.3
15	282	6.09					3.3
16	264	5.35					3.3
17	242	4.56					3.4
18	226	4.42					3.3
19	228	4.42					3.2
20	235	3.67					3.1
21	244	3.72					3.0
22	244	3.68					3.0
23	249	3.65					3.0

Time: 120°E.

Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.

Table 12

Simonstown, Union of S. Africa (33.9°S, 18.7°E) September, 1944

Time	h'F2	f'F2	h'F1	f'F1	h'E	f'E	F2-M3000
00		3.1					
01		3.1					
02		3.2					
03		3.4					
04		3.2					
05		3.2					
06		3.3					
07		4.6					
08		5.3					
09		5.6					
10		6.0					
11		6.3					
12		6.9					
13		7.2					
14		8.0					
15		7.7					
16		7.3					
17		6.9					
18		6.3					
19		5.2					
20		4.1					
21		3.3					
22		3.2					
23		3.2					

Time: 150°E.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 13

Mt. Stromlo, N.S.W., Australia (35.3°S, 149.0°E) September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.6						3.1
01		3.6						3.2
02		3.5						3.2
03		3.4						3.3
04		3.1						3.2
05		3.0						3.1
06		3.7						3.3
07		4.8						3.3
08		5.3						3.2
09		5.7						3.2
10		5.7						3.2
11		6.1						3.2
12		6.4						3.2
13		6.3						3.2
14		6.1						3.3
15		5.8						3.3
16		5.5						3.3
17		5.4						3.3
18		5.0						3.2
19		4.6						3.1
20		4.2						3.1
21		4.1						3.1
22		3.9						3.1
23		3.7						3.1

Time: 1500E.

Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.

Table 15

Campbell Islands (52.0°S, 169.0°E)

September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05								
06								
07	261	3.83						
08								
09	288	4.55	214	3.68	122	2.50		
10								
11	312	4.93	214	4.03	116	2.76		
12	313	4.99	211	4.04	115	2.76		
13	314	5.19	213	3.94	117	2.74		
14								
15	280	5.00	215	3.52	129	2.61		
16								
17	238	4.81						
18								
19	270	4.20						
20	291	3.50						
21								
22								
23								

Time: Local

Length of time sweep: 1 Mc to 12 Mc. Manual operation.

Table 14

Christchurch, N.Z. (43.5°S, 172.6°E)

September, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	261	3.21						
01	262	2.93						
02	264	2.95						
03	261	2.79						
04		2.51						
05		2.31						
06	246	2.84						
07	228	4.09						
08	253	4.47	214	3.40				
09	286	4.82	212	3.83	105	2.71		
10	303	5.02	207	3.95	101	2.93		
11	297	5.30	208	4.03	104	3.03		
12	294	5.32	206	4.02	103	2.94		
13	283	5.41	210	3.99	103	3.03		
14	267	5.56	209	3.90	103	2.95		
15	261	5.82	210	3.80	103	2.86		
16	243	5.06	209	3.37				
17	231	4.83						
18	228	4.52						
19	258	4.34						
20	265	4.06						
21	271	3.33						
22	273	3.51						
23	269	3.32						

Time: 172.50E.

Length of time sweep: 2.5 Mc to 12 Mc in two minutes.

Table 16

Swanton, England (54.2°N, 0.6°W)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		3.2						
01		3.2						
02		3.1						
03		2.9						
04		3.0						
05		3.4						
06		3.9						
07		4.1						
08		4.6						
09		5.0						
10		5.1						
11		5.1						
12		5.1						
13		4.5						
14		5.0						
15		4.9						
16		4.8						
17		5.0						
18		5.1						
19		5.2						
20		4.9						
21		4.7						
22		4.2						
23		3.5						

Time: 0°.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 17

Brisbane, Q., Australia (27.5°S, 153.0°E) August, 1944

Time	h ¹ F2	f ^o F2	h ¹ F1	f ^o F1	h ¹ E	f ^o E	fEs	F2-M3000
00	288	3.58						3.2
01	273	3.56						3.2
02	272	3.50						3.2
03	246	3.39						3.4
04		2.90						3.3
05		2.61						3.3
06		2.87						3.2
07	246	4.60						3.5
08	276	5.27	245	3.70				3.5
09	291	5.66	239	4.03	119	2.70		3.4
10	292	5.32	230	4.26	117	2.90		3.4
11	303	5.39	219	4.32	115	2.99		3.3
12	304	5.97	211	4.31	116	3.02		3.3
13	308	5.36	210	4.27	118	2.97		3.3
14	294	5.34	212	4.15	122	2.85		3.4
15	274	5.54	223	3.97		2.63		3.4
16	264	5.22	213	3.36				3.4
17	243	4.97						3.4
18	251	4.40						3.3
19	267	3.89						3.2
20	287	3.72						3.0
21	284	3.71						3.0
22	290	3.65						3.0
23	292	3.60						3.1

Time: 150°E.

Length of time sweep: 2.2 Mc to 12.5 Mc in two minutes, thirty seconds.

Table 18

Mt. Stromlo, N.S.W., Australia (35.3°S, 149.0°E) August, 1944

Time	h ¹ F2	f ^o F2	h ¹ F1	f ^o F1	h ¹ E	f ^o E	fEs	F2-M3000
00	275	3.26						3.0
01	274	3.29						3.1
02	274	3.20						3.1
03	264	3.27						3.1
04	255	3.10						3.2
05	264	2.66						3.2
06	284	2.48						3.2
07	254	3.66						3.2
08	253	4.61						3.3
09	272	5.18	225	3.83	110	2.28		3.3
10	292	5.27	217	4.04	108	2.32		3.3
11	303	5.52	213	4.13	106	3.03		3.3
12	308	5.36	207	4.18	107	3.09		3.3
13	315	5.69	209	4.20	106	3.05		3.2
14	296	5.59	207	4.08	106	2.98		3.3
15	276	5.47	205	3.88	108	2.79		3.3
16	255	5.13	207	3.42	109	2.47		3.3
17	240	4.87						3.3
18	239	4.19						3.3
19	255	3.54						3.2
20	262	3.51						3.1
21	265	3.36						3.1
22	264	3.21						3.1
23	279	3.08						3.1

Time: 150°E.

Length of time sweep: 1.6 Mc to 12.5 Mc in two minutes.

Table 19

Churchill, Canada (58.8°N, 94.2°W) September, 1944

Time	h ¹ F2	f ^o F2	h ¹ F1	f ^o F1	h ¹ E	f ^o E	fEs	F2-M3000
00	291	3.7					6.1	
01	340	3.9			100		5.0	3.0
02	343	3.7			90		5.1	2.8
03	322	3.8			113	2.9	3.8	2.9
04	330	3.6			104	3.1	4.0	2.8
05	327	3.9	246		108	3.0	4.2	2.9
06	307	4.4	253	3.5	99	3.2	3.8	
07	314	4.4	268	3.8	96	3.3	4.0	3.1
08	330	4.4	258	3.9	103	3.2	3.6	
09	346	4.6	231	3.3	103	3.1		3.0
10	362	4.3	220	4.0	102	3.0		3.1
11	360	4.9	214	4.0	105	3.1		3.0
12	349	5.0	210	4.0	101	3.0		3.1
13	353	5.1	217	4.0	103	2.9		2.9
14	338	5.2	222	4.0	103	2.9		3.0
15	321	5.4	229	3.8	105	2.8		3.0
16	311	5.4	233	3.7	111	2.7		3.0
17	291	5.4	237	3.4	120	2.7		3.1
18	282	5.1	237	3.5	110	2.8		3.1
19	291	4.4			112	2.3	3.5	
20	320	4.2			116	2.9	4.7	
21	293				115	2.9	5.6	
22	291	4.2					5.4	2.9
23	286	4.3					6.1	3.1

Time: 90°W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 20

Ottawa, Canada (45.5°N, 75.8°W) September, 1944

Time	h ¹ F2	f ^o F2	h ¹ F1	f ^o F1	h ¹ E	f ^o E	fEs	F2-M3000
00	347	2.7						2.9
01	352	2.6					2.5	2.9
02	394	2.6					2.8	2.7
03	376	2.7					2.8	2.8
04	388	2.6					2.9	2.8
05	322	3.0			130		2.8	3.0
06	268	3.8	235	3.3	135	2.4		3.2
07	266	4.5	236	3.3	139	2.4		3.3
08	304	4.9	223	3.8	129	2.7		3.2
09	322	5.3	218	4.0	125	2.9		3.2
10	321	5.4	212	4.2	124	3.1		3.2
11	329	5.5	207	4.2	122	3.1		3.1
12	325	5.6	206	4.3	123	3.1		3.1
13	321	5.6	214	4.2	124	3.0		3.2
14	319	5.6	220	4.1	125	2.9		3.1
15	315	5.6	229	4.0	127	2.8		3.1
16	289	5.6	237	3.5	134	2.4		3.1
17	273	5.6	247	3.2	142	2.4		3.1
18	271	5.7	250	3.3	130			3.1
19	269	5.5	240					3.0
20	259	4.6						3.0
21	275	3.8						3.0
22	297	3.1						2.9
23	328	2.8						2.8

Time: 75°W.

Length of time sweep: 1.93 Mc to 13.5 Mc. Manual operation.

Table 21

Washington, D.C. (39.00N, 77.50W)

September, 1944

Time	h°F2	f°F2	h°F1	f°F1	h'E	f'E	fEs	F2-M3000
00	270	2.71					2.4	3.0
01	271	2.60					2.4	3.0
02	268	2.33					2.3	3.0
03	260	2.18					2.5	3.0
04	263	2.02					2.6	3.1
05	275	1.96					2.5	3.1
06	247	3.27					2.4	3.3
07	251	4.41	222	3.20	125	1.59	2.2	3.4
08	277	4.92	220	2.72	120	2.16	2.2	3.4
09	307	5.29	219	3.99	119	2.59	2.8	3.4
10	304	5.45	212	4.14	116	3.06	3.2	3.2
11	317	5.56	206	4.18	117	3.16	*	3.2
12	325	5.57	206	4.23	115	3.21	*	3.2
13	317	5.78	210	4.21	114	3.18	*	3.1
14	316	5.86	218	4.16	113	3.11	*	3.1
15	306	5.74	226	4.03	116	2.92	*	3.1
16	292	5.80	234	3.77	117	2.83	2.6	3.2
17	267	5.82	235	3.41	117	2.13	2.4	3.2
18	242	5.64	245	2.70	126	1.74	2.1	3.2
19	233	5.48					2.4	3.2
20	235	4.80					2.3	3.2
21	244	4.03					2.4	3.1
22	254	3.35					2.4	3.1
23	264	2.94					2.1	3.1

Time: 750W.

Length of time sweep: 0.8 Mc to 14.0 Mc in two minutes.

Table 23

Baton Rouge, Louisiana (30.50N, 91.20W)

September, 1944

Time	h°F2	f°F2	h°F1	f°F1	h'E	f'E	fEs	F2-M3000
00	300	3.36						3.0
01	299	3.38						3.0
02	291	3.56						3.2
03	281	3.32						3.2
04	283	3.13						3.1
05	291	3.12						3.0
06	263	4.24						3.2
07	293	5.42	243	3.54	132	2.20		3.3
08	290	5.75	233	4.08	120	2.62		3.3
09	317	5.68	230	4.40	121	2.90		3.2
10	352	5.83	218	4.49	120	3.10		3.0
11	356	6.22	225	4.56	120	3.17		3.0
12	348	6.64	231	4.59	121	3.22		3.0
13	346	6.89	237	4.57	120	3.22		3.0
14	333	7.12	239	4.51	120	3.18		3.0
15	317	7.25	249	4.42	121	2.98		3.1
16	305	7.31	247	4.12	123	2.64		3.1
17	277	7.48	248	3.48	132	2.19		3.2
18	241	6.75	250					3.3
19	233	5.39						3.4
20	258	4.06						3.1
21	282	3.47						3.0
22	292	3.36						3.0
23	296	3.32						3.0

Time: 900W.

Length of time sweep: 1.9 Mc to 9.8 Mc in three minutes thirty seconds.
Record centered on the hour.

San Francisco, California (37.40N, 122.20W)

September, 1944

Time	h°F2	f°F2	h°F1	f°F1	h'E	f'E	fEs	F2-M3000
00	262	3.23						2.3
01	262	3.25						3.0
02	265	3.20						3.1
03	263	3.18						3.0
04	268	3.17						3.0
05	263	3.25						3.1
06	256	3.80	250	2.90				3.2
07	277	4.90	225	3.38	113	2.15		3.2
08	286	5.54	223	3.84	110	2.59		3.3
09	316	5.56	209	4.06	108	2.88		3.2
10	328	5.60	206	4.20	107	3.13		3.1
11	344	5.84	201	4.28	106	3.24		3.1
12	350	5.92	216	4.28	105	3.25		3.0
13	351	6.23	221	4.28	104	3.22		3.1
14	315	6.29	228	4.23	104	2.94		3.2
15	300	6.24	221	4.10	104	2.84		3.2
16	267	6.00	229	3.82	106	2.67		3.2
17	249	5.79	235	3.47	108	2.27		3.4
18	226	5.27						2.8
19	220	4.53						2.4
20	228	3.67						3.3
21	252	3.36						2.7
22	256	3.28						3.0
23	257	3.27						2.4
								2.3

Time: 1200W.

Length of time sweep: 0.8 Mc to 12 Mc in six minutes. Record centered on the hour.

Table 24

San Juan, Puerto Rico (18.40N, 66.10W)

September, 1944

Time	h°F2	f°F2	h°F1	f°F1	h'E	f'E	fEs	F2-M3000
00		3.56						2.8
01		3.79						2.9
02		3.64						3.1
03		3.48						3.1
04		3.07						3.0
05		3.03						3.1
06		4.08						3.2
07	267	5.22	241	3.18				3.3
08	298	5.59	232	3.92		3.02		3.1
09	320	6.02	232	4.19		3.14		3.0
10	341	6.16	222	4.32		3.31		2.9
11	356	6.75	222	4.36		3.35		2.8
12	359	7.29	233	4.43		3.36		2.8
13	342	8.18	237	4.35		3.35		2.8
14	316	8.94	255	4.33		3.32		2.9
15	295	9.06	244	4.16		3.20		3.0
16	280	8.75	248	4.01		3.07		3.1
17	268	8.13	255	3.57				3.2
18	248	7.08		3.10				3.3
19	247	5.80						3.3
20		4.55						3.1
21		3.85						2.8
22		3.69						2.6
23		3.54						2.8

Time: Local.

Length of time sweep: 3 Mc to 12 Mc in eleven minutes. Record centered on the hour.

Table 25

(Corrections and additions to previously issued provisional data)

Fairbanks, Alaska (64.9°N, 147.8°W)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	F2-M3000
00	298					5.3	
01						5.4	
02	316					5.6	
03						5.0	
04						3.2	
05						3.1	
06					2.16	3.3	
07						3.2	
08		4.01				3.0	
09	464			3.72		3.0	
10					2.71	3.0	
11	431	4.42				3.1	2.8
12		4.39				3.2	
13	443				2.82	3.2	
14	424					3.0	
15					2.60	3.0	2.9
16	379				2.41	2.8	
17						3.0	
18	281				1.70	2.6	3.2
19						3.0	
20						2.0	
21						3.3	
22						3.3	
23						3.3	3.1

Time: 1500W.

Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.

Table 27

(Corrections and additions to previously issued provisional data)

Maui, Hawaii (20.8°N, 156.5°W)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	F2-M3000
00						2.8	
01						2.5	3.0
02						2.4	
03							
04							3.2
05							
06							
07		5.76				3.0	
08		5.61				3.8	
09				4.47		4.5	
10						5.0	
11						4.6	
12						4.4	
13					110	4.4	
14				4.46		3.34	2.9
15						4.6	
16						4.3	
17						5.5	
18						4.7	
19						4.0	
20						3.7	
21						3.2	
22	280	4.96				3.2	
23						3.0	

Time: 1500W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

Table 26

Great Baddow, England (51.7°N, 0.5°E)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	F2-M3000
00		3.5					
01		3.3					
02		3.1					
03		2.9					
04		2.9					
05		3.3				1.5	
06		3.9				2.0	
07		4.3				2.4	
08		4.6				2.7	
09		5.0				2.9	
10		5.1				3.0	
11		5.2				3.1	
12		5.1				3.1	
13		5.0				3.1	
14		5.0				3.0	
15		5.0				2.9	
16		5.0				2.7	
17		5.2				2.4	
18		5.4				1.9	
19		6.0				1.5	
20		6.0					
21		5.3					
22		4.5					
23		3.9					

Time: 00

Slough, England (51.5°N, 0.6°W)

Noon f°F2 = 5.10 Mc.

Table 28

(Corrections and additions to previously issued provisional data).

Trinidad, British West Indies (10.6°N, 61.3°W)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	F2-M3000
00							
01							
02							
03							
04							
05		3.82					
06							
07	246				123		
08						3.2	
09						3.7	
10		5.86				4.1	
11						4.2	
12						4.4	
13						4.6	
14						4.5	
15						5.0	
16						4.7	
17						5.0	
18						3.6	
19						3.0	
20						3.8	
21						3.0	
22						3.0	
23							

Time: 600W.

Length of time sweep: 2 Mc to 16 Mc in one minute.

(Corrections and additions to previously issued provisional data)

Huancayo, Peru (12.0°S, 75.3°W)

August, 1944

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								3.3
03								3.3
04								
05								
06		6.42						
07							3.1	
08							4.6	
09							4.8	
10							4.8	
11							4.3	
12		6.18					4.8	2.5
13							4.3	
14							4.3	2.6
15							4.8	
16							4.6	
17							3.6	
18								
19								
20		6.14						3.0
21								
22								
23								

Time: 750W.

Length of time sweep: 16 Mc to 0.5 Mc in fifteen minutes.

Table 31

(Corrections and additions to previously issued provisional data)

Christohuron, N.Z. (43.5°S, 172.6°E).

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04		2.15						
05								
06								
07								
08		4.52						
09								
10							3.7	
11					3.82	112	4.0	
12							3.9	
13			206				3.8	
14			203				3.2	
15			206				3.2	
16			201					
17								
18								
19	246							
20	261							
21								
22								
23								

Time: 172.5°E.

Length of time sweep: 2.5 Mc to 12 Mc in two minutes.

(Corrections to previously issued provisional data)

Kermadec Island (29.2°S, 177.9°W)

August, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00								
01								
02								
03								
04								
05								
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								

Time: Local.

Length of time sweep: 1.8 Mc to 12.8 Mc. Manual operation.

Table 32

Sverdlovsk, USSR (56.8°N, 61.1°E)

July, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	4.3						
01	270	3.8						
02	280	3.4						
03	280	3.4						
04	270	3.6	270					
05	300	4.1	250	3.1	120	1.7		
06	330	4.4	230	3.6	130	1.9		
07	320	4.6	230	3.7	110	2.3		
08	380	4.8	220	3.9	100	2.5		
09	380	5.0	220	4.0	100	2.7		
10	350	5.2	210	4.1	100	2.8		
11	350	5.3	210	4.1	100	2.9		
12	360	5.2	210	4.1	100	3.0		
13	370	5.1	210	4.1	100	3.0		
14	320	4.9	210	4.1	100	2.9		
15	340	4.8	220	4.0	100	2.8		
16	340	4.7	220	3.6	100	2.7		
17	320	4.6	230	3.6	100	2.6		
18	280	4.5	230	3.3	120	2.3		
19	260	4.6	200	3.0	130	2.0		
20	260	4.8						
21	260	5.1						
22	260	5.2						
23	260	4.8						

Time: Local.

Table 34

Great Baddow, England (51.7°N, 0.5°E)
July, 1944

Time	fEs
00	2.1
01	2.3
02	2.1
03	2.3
04	2.5
05	3.2
06	4.0
07	4.8
08	4.7
09	4.5
10	5.2
11	4.8
12	5.2
13	4.4
14	4.4
15	4.1
16	4.3
17	4.3
18	4.5
19	4.3
20	3.8
21	3.8
22	3.1
23	2.9

Time: 0°

Length of time sweep: Manual operation.

Table 35

Tomsk, USSR (56.4°N, 85.0°E)
July, 1944

Time	h'F2	f°F2	h'F1	f°F1	h'E	fEs	F2-M3000
00	242	4.95					
01	245	4.55					
02	250	4.1					
03	250	3.8					
04	251	3.5					
05	252	3.6					
06	292	3.95	226	3.05	107	1.3	
07	326	4.2	220	3.4	107	2.2	
08	369	4.5	222	4.0	104	2.4	
09	397	4.6	226	3.9	104	2.7	
10	359	4.8	218	4.0	106	2.8	
11	363	5.0	210	4.1	102	2.9	
12	382	5.1	209	4.3	104	3.2	
13	398	5.1	209	4.2	102	3.2	
14	362	5.2	210	4.25	102	3.3	
15	333	5.0	216	4.2	102	3.3	
16	339	4.9	203	4.1	101	3.1	
17	360	4.8	214	4.0	103	2.9	
18	331	4.7	213	3.85	107	2.7	
19	310	4.7	216	3.6	107	2.5	
20	291	4.7	232	3.4	109	2.2	
21	270	4.9	234	3.3	113	1.8	
22	246	5.05					
23	244	5.1					

Time: 105°E.

Table 35

(Corrections to data previously issued
in "Ionospheric Data", issued August 1944)

Baton Rouge, Louisiana (30.5°N, 91.2°W)
July, 1944

Time	F2-M3000
00	3.0
01	3.0
02	3.1
03	3.1
04	3.1
05	3.2
06	3.2
07	3.0
08	3.1
09	3.0
10	3.1
11	3.0
12	3.0
13	2.9
14	3.0
15	3.0
16	3.1
17	3.2
18	3.2
19	3.2
20	3.3
21	3.2
22	3.1
23	3.0

Time: 90°W.

Length of time sweep: 1.9 Mc to 9.8 Mc in
three minutes, thirty seconds. Record
centered on the hour.

Table 36

Delhi, India (28.6°N, 77.2°E)
July, 1944

Time	f _o F2
00	3.54
01	3.61
02	3.50
03	3.32
04	3.17
05	3.34
06	4.22
07	5.28
08	5.90
09	6.27
10	6.76
11	7.07
12	7.03
13	7.50
14	7.64
15	7.51
16	7.06
17	6.75
18	6.65
19	6.70
20	5.78
21	5.42
22	4.52
23	4.15

Time: 75°E.

Table 37

Brisbane, Q., Australia (27.5°S, 153.0°E)
July, 1944

Time	fEs
00	
01	
02	2.6
03	2.5
04	
05	
06	
07	
08	
09	
10	
11	
12	3.0
13	
14	3.8
15	3.9
16	4.0
17	3.7
18	
19	
20	
21	
22	
23	

Time: 150°E.

Length of time sweep: 2.2 Mc to 12.5 Mc in two
minutes, thirty seconds.

Table 38

Mt. Stromlo, N.S.W., Australia
(35.3°S, 149.0°E)
July, 1944

Time	fEs
00	
01	
02	
03	
04	
05	
06	
07	
08	
09	
10	
11	3.8
12	3.9
13	4.3
14	4.0
15	4.0
16	
17	
18	
19	
20	
21	
22	
23	

Time: 150°E.

Length of time sweep: 1.6 Mc to
12.5 Mc in two minutes.

Table 39

Christchurch, N.Z. (43.5°S, 172.6°E)
July, 1944

Time	fEs
00	4.0
01	4.0
02	4.2
03	3.8
04	
05	3.2
06	
07	
08	
09	
10	4.4
11	4.5
12	5.1
13	5.0
14	5.2
15	4.7
16	3.6
17	4.0
18	3.7
19	3.4
20	
21	
22	
23	

Time: 172.5°E.

Length of time sweep: 2.5 Mc to 12 Mc
in two minutes.

Table 40

Watheroo, Western Australia
(30.3°S, 115.9°E)
May, 1944

Time	fEs
00	2.9
01	2.9
02	2.8
03	2.8
04	2.9
05	2.9
06	2.9
07	2.8
08	2.9
09	3.1
10	3.1
11	3.7
12	3.4
13	3.5
14	3.8
15	3.1
16	3.2
17	3.0
18	3.0
19	2.9
20	2.8
21	2.8
22	2.8
23	2.8

Time: 120°E.

Length of time sweep: 16 Mc to
0.5 Mc in fifteen minutes.

Washington, D. C.

Ionosphere station

(Location)

National Bureau of Standards

(Institution)

TABLE 41

IONOSPHERE DATA¹

Hourly values of $h'F_2$ in km for September 1944
(Months)

Records measured by: S.M.O.
H.P.G.

RESTRICTED

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1	230	260	270	270	270	300 ^A	260	320	300	320	340	360	360	360	350	340	320	320	260 ^A	240 ^A	260 ^A	240 ^A	250 ^A	250 ^A	7,30	
2	230 ^A	290 ^A	320 ^A	300 ^A	280 ^A	290 ^A	260 ^A	320 ^A	340 ^A	450 ^A	450 ^A	460 ^A	420 ^A	380 ^A	440 ^A	400 ^A	380 ^A	320	270	270	240	270	260	240	7,510	
3	240	290	260	270	280	270	270	230	320	320	310	340	360	360	340	320	240	280	270	240	240	250	260	260	6,830	
4	240	280	260	260	300	310	270	270	230	300	300	290	380	420	330	340	360	300	280	260	240	220	220	260	6,760	
5	260	280	280	260	350	260	260	220	260	280	280	340	320	320	320	300	300	270	270	220	240	240	240	240	6,780	
6	260	260	270	260	260	240	240	250	270	280	300	280	300	320	340	320	300	300	240	240	220	220	240	280	6,770	
7	280	270	280	260	280	300	260	240	280	500	340	320	340	340	340	300	280	280	240	220	240	260	250	260	6,730	
8	260	250	260	260	270	280	260	240	320	320	360	300	300	320	330	360	340	280	260	240	240	240	240	240	6,770	
9	260	260	260	260	240	260	240	220	260	300	300	320	340	320	300	300	310	270	250	240	240	240	240	260	6,310	
10	260	260	260	260	290	270	250	280	300	280	350	340	340	330	340	340	340	300	270	250	240	240	240	260	6,860	
11	260 ^A	270 ^A	280 ^A	270 ^A	260 ^A	260 ^A	240	330	320	320	280	340	320	330	320	300	300	280	240	240	240	240	260	260	6,760	
12	290	280	280	280	300	290 ^A	240	240	270	280	320	290	320	340	340	300	280	260	240	220	220	220	240	260	6,630	
13	260	240	260	260	240	260	240	240	260	280	300	280	300	300	300	280	280	260	240	240	260	250	240	260	6,310	
14	260	260	240	260	260	260	260	C	C	250	280	300	320	300	290	280	260	260	240	240	240	240	240	270	5,830	
15	260	240	260	260	260	260	220	220	260	260	320	270	270	330	300	280	260	230	220	220	220	260	260	260	6,210	
16	260	260	260	240	220	240	220	240	230	260	280	280	280	280	280	270	260	250	220	220	240	240	240	260	6,050	
17	280	280	260	260	240	250	240	270	280	280	260	260	300	280	300	280	280	240	230	220	220	240	270	270	6,320	
18	260	260	240	240	280	300	260	270	270	320	270	280	320	300	320	320	300	260	240	240	220	240	240	240	6,530	
19	260	280	270	260	260	260	240	240	240	280	280	280	320	320	310	300	280	280	230	210	220	240	240	240	6,380	
20	270	260	260	260	260	240	220	240	240	260	290	280	300	300	300	280	280	250	240	240	220	240	240	240	5,770	
21	C	C	C	C	C	C	C	C	C	C	300	290	310	300	320	290	280	260	240	220	240	250	240	240	3,760	
22	280	260	260	270	280	300	240	260	240	340	300	320	340	340	320	300	280	260	250	240	260	260	260	240	1,50	
23	250	260	240	240	240	240	240	220	240	300	280	280	300	300	260	280	280	260	240	240	260	260	260	260	2,70	
24	260	280	A	A	A	300	280	260	240	400	340	300	330	280	310	300	270	240	240	240	260	260	260	240	5,740	
25	260	270	260	260	270	380	260	220	310	280	300	300	300	280	280	300	280	240	230	240	240	240	260	280	6,540	
26	270	280	270	260	260	250	280	260	240	300	280	340	320	300	290	280	280	260	240	220	220	240	280	300	6,610	
27	280	320	320	260	280	300	260	240	300	320	330	340	320	300	320	290	280	250	220	220	220	230	280	290	6,770	
28	290	280	280	240	240	240	240	220	230	260	280	290	280	290	280	280	260	240	220	220	230	240	260	260	6,130	
29	280	280	260	240	240	260	240	260	260	240	280	280	360	280	300	290	260	240	220	220	240	240	260	280	6,340	
30	280	280	310	260	260	260	260	240	260	300	340	360	380	320	300	360	280	260	260	240	240	240	250	260	7,040	
31																										
Sum	7820	7860	7520	7280	7360	7970	7170	7040	7150	8900	8830	9510	9750	9520	9470	9180	8750	8000	7250	7000	7060	7320	7630	7670	19,3610	
Mean ¹	270	271	268	260	263	275	247	251	277	307	304	317	325	317	316	306	292	267	242	233	235	244	254	264		
Median ²	270	270	266	258	262	274	246	249	275	302	302	303	320	315	312	301	287	264	240	234	235	244	254	265		
Median	260	270	260	260	260	260	240	240	275	300	300	300	320	320	315	300	280	260	240	240	240	240	260	260		

¹ For all days of the month² For quiet days $h'F_2$

September, 1944

TABLE 42

IONOSPHERE DATA-2

Washington, D. C. Ionosphere Station

National Bureau Of Standards

Hourly values of f^oF_2 in Mc for September, 1944
(Month)Records measured by: S. M. O.
N. P. G.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1	3.2	3.0	2.8	2.2 F	2.0	1.7	3.1	4.0	4.6	4.7	5.0	5.3	5.4	5.3	5.3	5.5	5.4	5.8 F	6.0 K	6.7 K	5.7 K	4.7 K	4.0 K	3.7 K	105.1	
2	3.0 K	2.5 F	2.0 F	1.8 F	(2.0) F	(1.9) K	3.1 K	4.0 K	4.3 K	(4.3) K	(4.1) K	(4.7) K	(4.6) F	(5.1) F	4.9 F	4.7 K	4.9 F	4.8	4.9	5.0	4.6 F	(3.2) F	2.7 F	(2.2) F	89.1	
3	2.1 F	1.9 F	(1.8) F	1.8 F	(1.7) F	1.6 F	3.7	4.3	4.7	5.2	(5.4)	5.4	5.3	5.6	5.5	5.5	5.3	5.3	5.2	5.8	6.5	4.3 F	3.5 F	(2.7) F	99.3	
4	2.0 F	1.9 F	1.8 F	1.6 F	(1.5) F	(1.8) F	3.5	4.6	4.9	5.4	5.3	5.5	5.2	5.3	(5.4) F	5.2	5.4	5.8	6.0	6.8	6.5	5.5	4.1 F	3.0 F	104.0	
5	2.7 F	2.2 F	2.2 F	2.6	2.5	2.3 F	3.6 F	4.8	5.3	6.2	6.1	5.6	(5.7) F	5.6	5.9	5.8	5.8	5.5	5.7	5.6	(5.4)	4.5	3.7	3.3	108.6	
6	2.9	2.4	2.1 F	2.0 F	(2.0) F	1.9 F	3.6	4.4	5.6	5.9	5.7	5.5	5.9	5.5	5.9	5.6	6.1	6.8	(7.5)	7.0	7.2	5.1	3.6	3.2	113.9	
7	2.9	2.5	2.4	2.3	(2.0) F	1.8 F	3.3	4.2	4.8	4.7	5.0	5.4	5.4	5.5	5.8	5.8	5.6	5.4	4.9	5.0	4.1	3.7	3.3	2.9	99.3	
8	2.7 F	2.5	2.2 F	2.0 F	1.8 F	1.8 F	3.3	4.5	4.7	4.8	5.4	5.4	5.1	5.7	5.5	5.5	5.2	5.4	5.3	5.8 F	5.4 F	(4.6) F	3.4 F	3.2 F	103.2	
9	(2.6) F	2.5 F	2.7	2.3 F	2.2 F	2.1 F	3.3	4.2	4.6	5.2	(5.3)	4.9	5.2	5.2	5.4	5.4	5.2 F	5.5 K	(6.2) K	5.0 K	4.1 K	3.4 K	2.1 K	100.5		
10	2.9	2.6	2.4 F	2.1 F	(2.0) F	(1.9) F	3.3	4.2	4.6	5.2	(5.3)	4.9	5.2	5.2	5.4	5.4	5.5	5.8	6.0	6.6	5.0 F	4.1 K	3.4 K	2.1 K	99.9	
11	1.7 F	(1.7) K	1.5 F	1.4 F	(1.3) K	(1.7) F	(3.1) F	(4.2)	4.8	5.1	5.5	5.4	5.5	5.7	6.1	5.9	5.8	5.5	5.6	5.6	5.1	4.4	3.4	3.1	104.0	
12	2.8	2.6	2.3	(2.4)	2.3 F	2.0	3.3	4.1	5.0	5.7	5.1	(5.4)	5.5	5.4	6.0	6.1	6.0	6.1	5.8	5.6	4.8	3.8	3.0	2.9	109.2	
13	2.8	2.5	2.5	2.3	2.2 F	2.1 F	3.7	5.2	(5.2)	6.4	6.0	5.8	5.8	6.0	6.0	6.0	6.0	5.6	5.6	6.4	5.9	5.2	4.1	3.4	112.7	
14	3.4	3.3	3.0	2.7	2.6	2.1 F	3.4	C	C	6.4	6.4	5.4	5.6	6.2	6.6	6.0	5.9	5.5	5.4	(7.3)	5.0	4.3	3.9	3.6	101.9	
15	3.4	3.1	2.8	2.4	2.3	2.2	3.7	4.7	(5.4)	(5.3)	5.5	6.2	5.5	5.4	5.7	5.6	5.6	5.4	5.1	5.0	4.3	3.8	3.2	3.2	105.1	
16	3.0	2.9	2.6	2.5	2.2	1.9	2.7	5.0	5.2	(5.8)	(5.6)	6.6	6.6	6.8	6.6	6.4	(6.0)	6.3	5.9	5.3	4.6	4.2	3.7	3.3	112.6	
17	3.0	2.7	2.5	2.2	2.1	1.7 F	3.3	(4.4)	(5.8)	5.6	(5.8)	6.3	6.0	6.4	(6.0)	5.6	5.3	6.4	(6.2)	5.8	4.9	4.0	3.7	3.0	109.2	
18	3.2	3.1	2.7	2.6	2.2	2.2	3.3	(4.3)	5.2	5.0	(5.1)	(5.9)	5.4	5.6	5.8	5.5	5.7	6.3	6.3	6.3	4.9	4.1	3.0	2.5	104.1	
19	2.2	2.1	2.0	1.9	2.0 F	1.9 F	3.4	4.6	(5.6)	5.4	6.0	5.8	5.4	5.8	5.8	6.2	6.2	6.2	6.0	5.7	3.7	3.1	2.4	1.9	101.7	
20	2.2	2.1	2.1	2.2 F	2.2 F	2.3	(2.4)	5.4	(5.1)	5.8	(6.2)	6.2	6.0	6.3	6.4	6.4	6.3	5.8	5.7	5.4	4.1	3.4	3.4	C	102.5	
21	C	C	C	C	C	C	C	C	C	C	5.6	5.7	5.5	5.7	(5.9)	6.2	6.0	5.9	5.7	5.7	4.1	3.4	3.1	2.7	70.7	
22	2.6	2.4	2.3 F	2.2 F	1.8 F	1.7 F	2.9	4.2	4.8	4.7	5.3	5.2	5.0	5.7	5.7	5.3	5.6	5.3	5.2	5.2	4.8	4.1	4.1	3.9	100.1	
23	3.3	2.9	2.6	2.1	1.7 F	1.8	3.4	5.1	5.2	(6.0) F	6.4	(6.3) F	6.3	6.8	6.8	5.4	6.0	6.6	6.0	6.0	4.5	4.6	3.9	3.4	113.5	
24	2.8	2.3	2.3	1.9	(1.8) F	(1.7) F	2.6	3.6	3.9	4.3	4.7	5.3	5.2	5.6	5.3	5.5	6.3	5.5	5.7	5.7	4.2	4.0	3.3	3.1	94.5	
25	3.0 F	2.8	2.5	2.1 F	1.9 F	(1.6) F	2.6	4.0	4.7	5.4	5.5	5.6	5.6	(6.1) F	6.2	5.4	5.4	6.0	5.7	4.6	3.6	3.2	2.9	100.3		
26	2.6	2.5	2.1 F	2.2 F	1.9 F	2.0 F	2.8	3.9	4.3	4.6	(5.4)	5.2	5.7	5.7	6.2	5.3	5.1	5.2	5.2	3.4	3.1	2.7	2.4	94.2		
27	2.3	2.2 F	2.2 F	2.2 F	2.1	2.1	2.9	4.0	(4.3)	4.6	4.7	5.2	5.4	5.7	(5.7) F	6.4	6.5	6.6	6.6	3.8	3.8	2.8	2.4	2.3	97.4	
28	2.3	2.3	2.3	2.5	2.1 F	1.8 F	2.1	4.8	5.8	5.7	5.9	5.9	5.1	6.1	6.2	6.2	6.5	6.2	5.7	5.7	3.2	3.2	2.8	2.6	104.2	
29	2.5	2.4	2.4	2.4	2.1	2.2	(3.0)	4.5	5.0	(5.2)	5.6	5.0	5.4	5.8	5.8	6.2	6.1	6.5	5.9	5.3	3.0	2.8	2.6	100.7		
30	2.5	2.6	2.6	2.4	2.3	2.4	3.0 K	3.9 K	4.5 K	4.6 K	4.5 K	4.8 K	5.5 K	6.4 K	6.2 K	5.8 F	5.9	5.4	4.7	4.7	4.1	3.2	2.4	100.7		
31																										
Sum	78.6	72.5	67.6	63.4	58.7	56.8	94.9	123.6	137.9	153.5	163.4	161.9	167.1	173.4	175.7	173.3	174.0	177.1	167.2	144.1	121.9	110.7	85.9	305.9		
Mean	2.71	2.50	2.1	2.18	2.02	1.96	3.27	4.41	4.92	5.24	5.45	5.56	5.57	5.78	5.86	5.74	5.80	5.71	5.61	4.83	4.33	3.7	2.9	9.4		
Mean	2.74	2.54	2.07	2.11	1.95	1.91	3.29	4.42	4.95	5.36	5.53	5.62	5.61	5.78	5.88	5.78	5.85	5.71	5.61	4.70	4.27	3.7	2.9	9.5		

For all days of the month

2 For quiet days

 f^oF_2

September, 1944

(Location) Washington, D. C.
(Institution) National Bureau of Standards

TABLE 43
IONOSPHERE DATA-3

RESTRICTED

Records measured by: S.M.O.
H.P.G.

Hourly values of $h'F_1$ in km for September 1944 (Month)

TIME: 75°W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1									220	220	220	220	220	200	220	220	240	240	K						2420	
2								220	240	220	220	220	220	220	220	240	240	240	250						2710	
3								220	220	220	220	220	220	220	220	220	220	230							2170	
4								220	220	220	220	220	220	220	220	240	240	240	240						2670	
5								220	220	220	220	220	220	220	220	220	240	220							2120	
6								220	220	220	220	220	220	220	220	220	220	240							2340	
7								220	220	220	220	220	220	220	220	220	220	220							2130	
8								220	220	220	220	220	220	220	220	220	240	240							2440	
9								220	220	220	220	220	220	220	220	220	220	240							2240	
10								220	220	220	220	220	220	220	220	220	240	240	K						2470	
11								220	220	220	220	220	220	220	220	220	220	230							2400	
12								220	220	220	220	220	220	220	220	220	220	230							2380	
13								220	220	220	220	220	220	220	220	220	220	240							1970	
14								220	220	220	220	220	220	220	220	220	220	240							1900	
15								220	220	220	220	220	220	220	220	220	220	240							2330	
16								220	220	220	220	220	220	220	220	220	220	240							1960	
17								220	220	220	220	220	220	220	220	220	220	240							2320	
18								220	220	220	220	220	220	220	220	220	220	240							2250	
19								220	220	220	220	220	220	220	220	220	220	240							1780	
20								220	220	220	220	220	220	220	220	220	220	240							2380	
21								220	220	220	220	220	220	220	220	220	220	240							1910	
22								220	220	220	220	220	220	220	220	220	220	240							1740	
23								220	220	220	220	220	220	220	220	220	220	240							1950	
24								220	220	220	220	220	220	220	220	220	220	240							2180	
25								220	220	220	220	220	220	220	220	220	220	240							2270	
26								220	220	220	220	220	220	220	220	220	220	240							1930	
27								220	220	220	220	220	220	220	220	220	220	240							2250	
28								220	220	220	220	220	220	220	220	220	220	240							1780	
29								220	220	220	220	220	220	220	220	220	220	240							2380	
30								220	220	220	220	220	220	220	220	220	220	240							1910	
31								220	220	220	220	220	220	220	220	220	220	240							1740	
Sum								2380	2360	2350	2350	2350	2350	2350	2350	2350	2350	2350	490						62000	
Mean ¹								220	220	220	220	220	220	220	220	220	220	220	235						245	
Mean ²								220	219	219	219	219	219	219	219	219	219	219	245						245	
Median								220	220	220	220	220	220	220	220	220	220	220	245						245	

¹For all days of the month

²For quiet days

hF₁

September, 1944

TABLE 44

IONOSPHERE DATA-4

Washington, D. C. Ionosphere Station

National Bureau of Standards

Hourly values of f^oF_1 in Mc for September 1944 (Month)Records measured by: S.M.O.
H.P.G.

RESTRICTED

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean	
1								34	38	40	41	43	44	43	43	42	39	37 ^K							44.4		
2								34 ^K	38 ^K	40 ^K	41 ^K	43 ^K	44 ^K	43 ^K	42 ^K	39 ^K	38 ^K	33	27						45.6		
3									38	40	42	43	42	43	42	41	39	36							40.6		
4								34	39	41	42	43	42	44	42	40	35								44.4		
5									39	41	42 ^H	43	43 ^C	43	42	41	39	35							40.8		
6								35	38	40	43	43	43	43	43	41	38	35							44.2		
7									35	42	43	42	42	42	41	38	33								40.0		
8								28	33	40	42	42	42	42	40	39	35								43.0		
9									33	41	42	42	42	42	41	38	35								40.5		
10								34	38	40	42	42	42	42	42	42	39	35	^K						43.9		
11								35	39	42	43 ^H	43 ^H	43	42	41 ^H	42 ^H	39	35							44.0		
12								28	37 ^H	41	42	43	44	42	41 ^H	42 ^H	39	35							42.4		
13										41	42	41	43 ^H	42	40	38 ^A									32.9		
14								^C	^C	39	41	42	43	42	40	37	32								35.8		
15								39	40	41	41	43 ^H	43	43	41	38									36.7		
16								37	41	42	42	43	42	42	41	40	37	^B							36.5		
17								30	37	40	42 ^H	39	43	42 ^H	42	41	^A								35.6		
18									34	38	41 ^H	41	42 ^H	41	40	38	33								38.7		
19									37	39	41	42 ^H	42	43	42 ^H	41	38	31							39.6		
20									36	39	41	42	43	42	40	38									36.4		
21								^C	^C	41	42	41	42	41	39	36									28.2		
22								28	37	40	41	41	42	41	39	37	30								41.7		
23										40	41	42 ^C	43	42	41	40	37 ^H								32.6		
24									33	40	41	41	41 ^H	41	40	36									31.8		
25									37 ^H	39	42	41	41 ^C	41	38	37									35.8		
26								35	40	40	40	42	40 ^H	40 ^H	38	37									35.4		
27								36	39	40	41	41	41	41 ^C	39	37									35.5		
28								39	42	43	41	41 ^H	41	41	40	36									32.2		
29								37	39	39	42	42	41	41	40	36									35.7		
30								^K	37 ^K	40 ^K	40 ^K	42 ^K	41 ^K	41	41 ^K	39 ^K	36								35.7		
31																											
Sum								320	393	415.6	424.1	425.5	426.3	424.7	420.8	409.4	454.5	27								115.7	
Mean ¹								3.20	3.72	3.99	4.14	4.18	4.23	4.21	4.16	4.03	3.77	3.41	2.70								
Mean ²								3.18	3.72	3.98	4.14	4.18	4.24	4.21	4.16	4.04	3.77	3.38	2.70								
Median								3.18	3.72	3.98	4.14	4.18	4.24	4.21	4.16	4.04	3.77	3.38	2.70								

¹For all days of the month²For quiet days f^oF_1

September, 1944

Washington, D. C.

Ionosphere Station

National Bureau of Standards
(Institution)

TABLE 45

IONOSPHERE DATA-5

RESTRICTED

Hourly values of $h' E_{min}$ for September 1944
(Month)44-33718 OBSERVATIONS
S M O
H P G

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean	
1							120	120	120	110	120	120	120	100	110	100	110	120	K						1250		
2							120 ^K	120 ^K	120 ^K	120 ^K	120 ^K	120 ^K	120 ^K	120 ^K	110 ^K	120 ^K	120 ^K	120	120						1550		
3							120	120	120	110	120	120	120	120	120	110	100	120	120						1520		
4							120	120	120	110	110	120	120	120	100 ^C	120	120	120	120						1510		
5							120	120	120	120	120	120	120	120	100	110	110	120							1250		
6							130	120	120	120	110	110	120	120	120	100	120	120	120						1520		
7							140	120	120	120	120	120	120	120	120	120	120	120	120						1580		
8							120	120	120	120	120	120	120	120 ^C	120	120	120	120	120						1440		
9							120	100	120	120	120	120	120	120	120	120	120	120	120						1540		
10							120	120	120	120	120	120	120	120	120	120	120	120	K						1440		
11							120	110	120	120	120	120	120	120	120	120	120	120	140						1450		
12							120	120	120	120	110	100	100	100	100	120	120	120	120						1220		
13							120	120	120	120	120	110	120	120	120	120	120	120	120						1300		
14							C	C	C	120	120	120	120	110	100	120	120	120	120						1050		
15							120	120	120	120	120	110	120	120	100	100	120	120	140						1410		
16							120	120	120	120	110	120	110	120	110	120	100	120 ^H							1270		
17							120	120	120	120	120	110	120	120	100	100	120	120	120						1240		
18							120	120	120	120	120	120	120	120	100	100	120	120	120						1290		
19							120	120	120	110	120	120	120	120	120	120	120	120	120						1290		
20							120	120	120	120	120	120	120	120	100	120	120	120	120						1300		
21							C	C	C	120	110	120	120	120	120	120	120	120	120						950		
22							120	120	120	100	110	100	100	100	100	100	120	120	140						1250		
23							120	120	120	120	120	120 ^C	120	120	120	120	120	120	120						1320		
24							130	130 ^H	120	120	120	120	110	110	110	100	100	120	120						1320		
25							120	120	120	120	120	120	120	110	120 ^C	120	120	120	120						1390		
26							120	120	120	120	120	120	120	120	110	120	120	120	120 ^H						1280		
27							120 ^H	120	120	110	120	120	120	120	120 ^C	120	120	120	120						1310		
28							120 ^H	120	120	110	110	120	110	120	120	120	120	120	120						1290		
29							120	120	120	120	120	120	120	120	120	120	120	120 ^H	120						1290		
30							K	120 ^K	120 ^K	120 ^K	110 ^K	120 ^K	120 ^K	120 ^K	100 ^K	100 ^K	100	120	120						1320		
31															100 ^K	100 ^K	100	100							1220		
Sum							1000	2260	3440	3470	3520	3440	3420	3380	3440	3500	3580	1260							40160		
Mean ¹							125	120	120	119	116	117	115	114	113	115	117	119	126								
Mean ²							126	120	120	118	116	117	114	114	113	115	116	119	126								
Median							120	120	120	120	120	120	120	120	120	120	120	120	120								

¹For all days of the month²For quiet days

h'E

September, 1944

TABLE 46
IONOSPHERE DATA-6

Washington, D. C. Ionosphere Station
National Bureau Of Standards
(Location)
(Institution)

RESTRICTED

Records measured by: S.M.O.
H.P.G.

Hourly values of f^oE in $^{\circ}$ for September 1944
(Month)

TIME: 75°W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1								A	(2.6)	(3.0) ^A	(3.2)	3.3	3.3	A	A	3.0	(2.7) ^A	(2.4) ^A							23.5	
2							1.7 ^K	2.3 ^K	(2.7) ^K	(3.0) ^K	B ^K	C ^K	A ^K	(3.2) ^A	(3.2) ^A	(3.0) ^A	2.8 ^K	(2.2)	1.7						25.8	
3							1.7	2.3	(2.6)	2.7	A	A	A	A	(3.2)	(3.1)	(2.9)	2.3	(1.8)						22.6	
4							A	A	A	A	(3.2)	(3.3)	(3.3)	3.3	(3.1) ^C	(3.0) ^A	(2.7) ^B	2.3	A						20.9	
5								(2.3)	(2.7)	2.9	(3.1) ^A	A	C	A	(3.1)	(2.7)	2.6	2.0							21.6	
6							1.7	2.4	(2.8)	(3.0) ^A	(3.1) ^A	(3.1) ^B	(3.2)	(3.3)	3.2	3.0	2.7	(2.1)	(1.8)						35.4	
7							(1.5)	(2.3) ^A	(2.6)	2.9	3.1	(3.1) ^B	(3.2) ^B	3.2	3.1	3.0	2.7	2.3	(1.8)						34.5	
8							(2.3)	2.6	(2.7)	(2.8) ^A	(3.0) ^A	(3.2)	C	A	A	(2.8)	2.3	1.8							23.5	
9							1.5	2.2	2.5	(2.8)	(3.1)	3.0	(3.2) ^A	3.3	(3.2) ^A	(3.0)	2.7	2.3	1.8						34.0	
10							(1.4)	(2.2) ^A	(2.6)	(2.8)	(3.1) ^C	(3.2) ^A	(3.3)	(3.1)	3.2	3.0	2.7 ^K	2.2 ^K							32.8	
11								(2.2) ^F	(2.7)	2.9	(3.1)	(3.2)	3.3	(3.2) ^A	(3.0) ^B	2.7	(2.2)	A							31.7	
12								(2.2) ^F	2.6	(2.9)	(3.1) ^A	(3.3)	(3.3)	3.3	(3.1)	2.9	2.6	(2.2)							31.5	
13								2.2	2.7	(3.0)	3.2	(3.3)	B	B	B	A	A	2.3							16.7	
14								C	C	3.0	3.2	(3.3)	(3.2)	B	B	A	(2.7)	A							18.6	
15								2.2	2.7	A	A	A	3.2	(3.1) ^B	(3.1)	(2.9)	2.6	(2.3)	A						22.1	
16								2.2	2.7	B	B	(3.2)	3.3	(3.3)	(3.1)	(2.9) ^B	(2.7)	2.2 ^H							25.6	
17								(2.2)	(2.7)	2.9	3.0	(2.9)	A	A	(3.1) ^B	(3.0) ^A	2.7	(2.1)							12.3	
18								2.0	(2.8) ^B	B	B	B	B	B	B	(2.9)	(2.6)	(2.0)							15.7	
19								(2.2)	2.6	B	B	B	(3.1)	B	B	(2.9)	(2.7)	(2.2)							12.1	
20								2.1	2.5	(2.7)	B	B	B	B	B	B	(2.7) ^B	2.1							10.5	
21								C	C	C	B	B	(3.1)	B	C	(2.9)	(2.7)	2.1							16.0	
22								(1.9)	2.4	2.7	(2.9) ^A	B	B	B	B	A	2.5	2.1	(1.5)						13.0	
23								A	(2.6)	(2.7) ^B	(3.0)	C	B	(3.0)	B	B	2.4	2.1							22.9	
24								C	1.9 ^H	2.4	(2.6)	2.9	B	B	(3.0)	(2.9)	(2.8) ^B	2.5	(1.9)						11.4	
25								2.0	2.4	(2.7) ^B	B	B	B	C	B	B	2.5	1.8							16.1	
26								A	A	A	A	A	(3.1)	(3.1) ^B	(3.0)	(2.7)	2.3	1.9 ^H							20.0	
27								1.9 ^H	2.4	(2.8) ^B	(3.0) ^A	(3.1) ^B	B	B	C	2.8	2.5	2.1							23.5	
28								2.1 ^H	2.4	(2.7)	B	A	(3.1) ^B	(3.1) ^B	(2.9) ^B	(2.8) ^B	2.5	(1.9)							9.0	
29								(1.8) ^A	A	A	A	A	B	B	B	(2.8) ^B	2.6	1.8 ^H							13.0	
30								K	2.5 ^K	(2.5) ^K	(2.7) ^K	B	K	B	K	(2.9) ^K	2.4	A							64.5	
31																										
Sum							9.5	51.9	64.8	62.1	48.9	44.2	51.4	47.7	49.7	67.2	76.2	59.7	12.2							
Mean ¹							1.58	2.16	2.59	2.82	3.06	3.16	3.21	3.18	3.11	2.92	2.63	2.13	1.74							
Mean ²							1.56	2.14	2.59	2.82	3.06	3.16	3.21	3.18	3.10	2.92	2.62	2.12	1.74							
Median							2.2	2.6	2.8	3.1	3.2	3.2	3.2	3.2	3.1	2.9	2.7	2.2								

¹For all days of the month

²For quiet days

f^oE

September, 1944

IONOSPHERE DATA-7

Washington, D. C.

Ionosphere station

National Bureau Of Standards

(Institution)

Hourly values of \bar{E}_s for September 1944
(Month)

(Worth)

RESTRICTED

[illegible][illegible]

For all days of the month

²For quiet days

5
6

September, 1944

Washington, D. C.

Ionosphere Station

National Bureau of Standards

(Institution)

Hourly values of F2-M1500 for September 1944

(Month)

Records measured by: S.M.O.
H.P.G.

RESTRICTED

TABLE 48
IONOSPHERE DATA-8

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1	192	200	198	204	191	A	210	220	230	210	203	197	201	200	198	200	202	203	200	206	198	201	195	212	46.71	
2	203	197	185	195	217	216	218	215	212	177	G	182	184	190	183	185	182	206	212	203	211	204	195	208	45.60	
3	188	195	219	200	211	221	248	220	210	212	217	209	200	200	200	203	222	219	215	216	219	204	220	210	50.78	
4	195	190	217	200	196	231	225	231	224	211	230	192	185	C	201	190	210	207	211	219	213	223	206	48.00		
5	200	194	210	206	220	215	238	232	220	219	225	235	C	209	202	211	211	222	215	218	210	215	223	212	49.13	
6	201	210	220	194	203	213	235	238	225	229	221	215	214	210	206	195	199	197	201	200	217	223	200	197	50.43	
7	197	189	192	187	195	191	219	242	223	165	207	210	201	206	195	211	217	216	232	227	210	226	204	210	47.57	
8	206	205	206	205	206	201	235	243	212	208	197	207	212	C	205	187	201	203	210	221	214	211	226	214	48.28	
9	194	207	195	196	200	211	230	240	240	220	214	208	207	200	215	203	209	214	219	212	220	210	201	198	51.63	
10	195	196	214	203	196	185	221	227	213	217	197	206	207	208	202	200	194	207	210	210	204	213	222	223	47.37	
11	226	192	192	195	205	221	233	217	202	210	226	204	207	204	177	211	205	216	221	212	221	220	198	207	50.15	
12	193	195	194	202	184	A	219	238	230	223	206	221	215	203	196	210	210	213	230	225	218	202	194	197	48.30	
13	200	209	197	203	207	210	220	220	238	220	215	230	236	207	204	214	212	222	234	215	211	225	208	223	51.12	
14	201	203	210	198	198	208	217	C	C	210	222	212	213	215	216	227	240	226	226	223	210	206	203	201	51.07	
15	205	204	200	193	208	217	227	244	240	221	202	227	237	234	216	225	235	238	230	211	225	195	200	204	52.01	
16	203	201	213	213	210	224	240	244	248	230	187	226	220	212	219	215	228	222	220	215	202	196	196	211	51.37	
17	200	206	218	215	210	224	229	229	218	226	225	231	217	218	213	212	211	223	227	214	212	210	204	211	51.67	
18	200	205	200	196	197	193	224	C	224	208	230	226	215	221	210	211	208	221	227	216	219	212	205	201	48.76	
19	200	191	197	204	208	216	240	225	243	239	222	228	216	210	203	206	221	220	234	237	230	211	222	219	52.21	
20	202	194	193	214	210	227	235	249	249	236	216	213	215	213	207	214	213	233	231	201	213	203	207	C	47.77	
21	C	C	C	C	C	C	C	C	C	C	221	220	214	217	211	217	215	220	224	217	204	210	200	203	30.00	
22	195	200	215	200	210	215	224	230	221	206	227	213	217	212	217	213	218	214	208	208	201	195	195	203	50.07	
23	207	204	213	221	220	236	230	250	240	222	220	C	214	210	227	208	215	210	212	213	185	204	200	202	47.40	
24	190	200	A	A	A	224	228	207	233	191	202	210	211	220	210	200	222	235	220	211	202	194	202	197	43.13	
25	200	191	201	193	207	178	219	235	214	234	220	218	217	C	214	223	215	228	220	214	208	207	193	197	48.58	
26	204	197	203	200	207	195	236	220	221	212	210	210	207	210	211	222	217	222	227	225	214	196	200	197	50.11	
27	202	193	204	200	197	203	217	240	217	213	211	202	213	211	C	214	207	216	232	210	220	210	192	195	48.04	
28	195	193	207	212	221	225	220	232	254	224	224	218	214	212	215	213	232	230	234	220	214	201	200	200	52.25	
29	192	197	201	211	205	197	218	225	222	238	227	233	197	223	211	217	215	226	231	227	202	202	200	197	51.12	
30	198	184	191	203	196	200	220	210	238	217	207	152	183	194	198	186	210	220	204	207	196	202	A	A	47.21	
31																										
Sum	5784	5762	5686	5648	5723	5614	5572	5217	6373	6246	6233	6153	6127	5823	5819	6259	6376	6558	6553	6450	6357	6211	5917	5692	441.23	
Mean	194	194	203	202	204	208	227	230	228	217	215	212	208	208	208	209	212	219	218	215	212	207	204	203		
Median	198	194	205	203	204	208	227	232	228	218	215	210	210	209	209	210	214	220	219	216	212	207	204	203		
Median	200	197	201	202	205	210	224	230	224	230	217	213	208	210	210	211	212	220	220	214	212	206	200	202		

For all days of the month

2 For quiet days

F2-M1500

September, 1944

TABLE 49

IONOSPHERE DATA-9

Washington, D. C.

Ionosphere Station

National Bureau of Standards

(Institution)

Hourly values of F2-M3000_{or} September 1944

(Month)

Records measured by: S. M. O.
H. P. G.

RESTRICTED

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1	295	303	295	304	310	310	329	340	314	303	300	305	302	300	302	302	308	308	302	308	301	302	288	319	7015	
2	313	300	282	302	310	310	327	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	6917	
3	292	299	322	307	310	310	328	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	7545	
4	298	295	315	307	310	310	327	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	7172	
5	300	302	314	312	315	315	329	329	321	330	310	C	C	C	C	C	317	330	320	320	320	320	320	320	7327	
6	306	312	323	294	303	319	340	348	333	340	349	320	325	310	287	317	298	300	300	300	326	324	301	300	7552	
7	300	287	283	247	299	289	321	348	339	250	310	315	301	311	295	316	321	322	342	329	312	303	310	313	7362	
8	310	311	300	307	305	304	348	351	317	311	296	310	320	C	C	C	306	306	305	313	328	311	331	319	7211	
9	290	310	290	298	305	315	325	341	349	324	319	312	313	302	314	306	317	320	320	317	325	318	310	301	7559	
10	301	295	329	302	310	310	325	333	321	321	299	314	310	310	310	310	310	310	310	310	310	310	310	310	7437	
11	301	295	329	302	310	310	325	333	321	321	299	314	310	310	310	310	310	310	310	310	310	310	310	310	7437	
12	294	299	297	310	283	310	324	346	338	339	308	331	324	310	297	315	312	317	340	330	320	311	301	301	7247	
13	296	310	298	305	300	316	323	321	342	325	320	339	305	317	310	323	327	325	302	320	315	332	310	308	7589	
14	303	310	311	300	300	308	319	C	C	349	330	322	308	321	321	331	354	330	331	332	310	307	307	301	7005	
15	314	308	299	292	310	320	330	349	345	330	305	336	341	310	324	338	338	342	327	315	330	293	301	308	7705	
16	309	305	321	316	342	325	347	350	351	332	289	330	330	321	329	320	331	330	333	317	306	312	309	320	7759	
17	305	313	325	321	316	311	339	339	324	343	330	340	324	322	320	314	315	331	339	312	325	295	296	309	7695	
18	300	303	300	295	300	292	339	C	330	311	338	333	321	329	315	311	312	331	330	330	324	313	310	307	7274	
19	299	288	298	314	305	319	346	331	348	347	320	339	322	318	304	309	329	321	339	345	330	318	330	296	7725	
20	305	302	289	320	320	341	369	360	359	342	321	319	321	315	313	320	315	339	314	301	318	310	312	C	7425	
21	C	C	C	C	C	C	C	C	C	C	325	324	322	324	312	322	319	325	328	324	310	314	300	305	4454	
22	294	301	322	305	318	320	329	340	328	311	340	309	300	307	315	324	322	320	310	312	305	294	292	308	7526	
23	310	307	320	300	305	336	337	343	349	330	330	C	309	304	340	311	320	320	319	314	288	302	301	302	7328	
24	288	302	H	H	H	310	310	310	329	290	305	331	320	330	320	307	331	341	321	314	302	290	306	301	6558	
25	303	290	305	300	310	310	326	340	323	345	330	326	324	C	319	319	320	332	329	334	310	309	290	296	7255	
26	310	298	310	300	309	298	332	327	330	318	340	309	311	316	314	319	323	328	333	330	321	292	303	294	7580	
27	304	293	305	300	295	304	322	341	325	317	315	306	318	317	C	307	308	322	335	313	327	311	290	295	7170	
28	290	304	310	320	320	325	320	338	369	335	332	321	317	320	320	319	342	335	341	334	321	304	300	302	7129	
29	290	296	305	313	300	296	320	330	323	346	331	342	300	330	314	322	317	332	338	338	304	303	300	300	7591	
30	300	282	289	310	296	302	326	313	348	323	310	230	278	294	297	279	314	327	308	310	293	303	H	H	6632	
31																										
Sum	8726	8711	8547	8491	8562	8350	8420	8466	8374	8346	8297	8205	8053	8750	8697	8389	9529	9708	9683	9570	9439	9277	8876	8576	2177.32	
Mean ¹	301	300	304	303	306	309	332	336	335	322	320	317	312	312	311	313	318	324	323	319	315	309	306	306	306	
Mean ²	299	301	307	304	306	310	332	338	335	324	321	322	315	314	312	315	320	325	324	320	315	309	306	306	306	
Median	300	302	305	303	306	311	329	335	332	324	323	323	313	312	312	315	320	325	324	320	315	309	306	306	306	

¹For all days of the month²For quiet days

F2-M3000

September, 1944

TABLE 50

IONOSPHERE DATA-10

Washington, D.C. Ionosphere Station

National Bureau of Standards

Hourly values of F2-M3500 for September 1944
(Month)Records measured by: S. M. O.
H. P. G.

RESTRICTED

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1	3.11	3.20	3.15	3.28 ^F	3.05	A	3.30	3.46	3.60	3.29	3.24	3.17	3.28	3.22	3.20	3.21	3.25	3.20 ^K	3.20 ^K	3.25 ^K	3.20 ^K	3.24 ^K	3.09 ^K	3.37 ^K	74.56	
2	3.30 ^K	3.22 ^K	(3.08 ^K)	(3.23 ^K)	(3.38 ^K)	(3.10 ^K)	3.41 ^K	3.47 ^K	3.46 ^K	(2.89 ^K)	G ^K	(2.97 ^K)	(3.00 ^K)	(3.17 ^K)	3.00 ^K	3.01 ^K	3.08 ^K	3.30	3.31	3.19	3.35 ^K	(3.43 ^K)	3.19 ^K	(3.36 ^K)	73.84	
3	3.00 ^F	3.15 ^F	3.43 ^F	(3.22 ^F)	(3.30 ^F)	(3.49 ^F)	3.71	3.43	3.35	3.37	(3.41)	3.30	3.21	3.25	3.22	3.25	3.49	3.41	3.34	3.40	3.41	(3.29 ^F)	(3.42 ^F)	(3.40 ^F)	80.25	
4	(3.10 ^F)	(3.15 ^F)	(3.39 ^F)	(3.30 ^F)	(3.29 ^F)	(3.16 ^F)	3.55	3.50	3.60	3.50	3.37	3.50	3.10	3.04	C	3.28	3.10	3.32	3.26	3.32	3.45	3.34	3.50 ^F	3.30 ^F	76.33	
5	3.21 ^F	3.23 ^F	3.40 ^F	3.29	3.41	3.47 ^F	3.55 ^F	3.46	3.46	3.40	3.45	3.28	C	3.31	3.27	3.31	3.31	3.45	3.34	3.40	(3.30 ^F)	3.40	3.26	3.40	77.36	
6	3.21	3.32	3.47 ^F	3.11 ^F	(3.25 ^F)	3.35 ^F	3.58 ^F	3.65	3.49	3.59	3.45	3.42	3.38	3.29	3.09	3.30	3.15	3.19	(3.17)	3.18	3.35	3.44	3.19	3.19	79.81	
7	3.19	3.10	3.10	3.05	(3.17 ^F)	3.06	3.40	3.65	3.59	2.71	3.30	3.34	3.22	3.30	3.14	3.41	3.40	3.38	3.47	3.41	3.31	3.22	3.26	3.30	78.48	
8	3.30 ^F	3.20	3.20 ^F	3.24 ^F	3.24 ^F	3.29 ^F	3.65	(3.70)	3.36	3.28	3.20	3.27	3.40	C	3.25	3.05	3.27	3.31	3.29	3.45 ^F	3.31 ^F	(3.27 ^F)	3.47 ^F	3.38 ^F	76.28	
9	(3.05 ^F)	3.30 ^F	3.04	3.17 ^F	3.21 ^F	3.32	3.63	3.50	3.67	3.41	3.36	3.30	3.20	3.40	3.41	3.27	3.32	3.38	3.41	3.33	3.41	3.28	3.25	3.21	79.75	
10	3.12	3.14	3.42 ^F	3.22 ^F	(3.19 ^F)	(3.09 ^F)	3.42	3.49	3.40	3.41	(3.19)	3.31	3.30	3.29	3.24	3.23	3.11 ^K	3.31 ^K	3.31 ^K	(3.31 ^K)	(3.30 ^K)	(3.35 ^K)	(3.40 ^K)	(3.23 ^K)	78.77	
11	(3.50 ^K)	(3.10 ^K)	2.88 ^K	(3.10 ^K)	(3.29 ^K)	(3.46 ^K)	(3.48 ^K)	(3.40)	3.24	3.30	3.58	3.27	3.35	3.25	3.19	3.32	3.28	3.38	3.40	3.37	3.45	3.40	3.19	3.30	79.48	
12	3.10	3.12	3.16	(3.29)	3.00 ^F	A	3.43	3.60	3.50	3.50	3.24	(3.50)	3.41	3.29	3.16	3.29	3.30	3.33	3.54	3.47	3.40	3.29	3.21	3.21	76.34	
13	3.19	3.25	3.20	3.25	3.30 ^F	3.38	3.40	(3.60)	3.45	3.39	3.56	3.25	3.31	3.30	3.42	3.30	3.45	3.19	3.37	3.32	3.50	3.25	3.28	80.21		
14	3.25	3.24	3.30	3.16	3.14	(3.30 ^F)	3.41	C	C	3.64	3.46	3.39	3.24	3.40	3.41	3.48	3.68	3.48	3.45	(3.50)	3.30	3.24	3.21	3.19	73.87	
15	3.31	3.22	3.19	3.12	3.30	3.38	3.47	3.69	(3.70)	(3.43)	3.25	3.50	3.55	(3.34)	3.41	3.50	3.53	3.53	3.41	3.51	3.47	3.14	3.24	3.27	81.29	
16	3.29	3.21	3.38	3.37	3.56	3.40	3.58	3.72	3.74	(3.44)	(3.10)	3.49	3.44	3.41	3.41	3.39	(3.50)	3.44	3.40	3.36	3.21	3.30	3.21	3.35	81.70	
17	3.20	3.27	3.40	3.40	3.30	3.35 ^F	3.50	(3.60)	(3.44)	3.54	(3.50)	3.60	3.40	3.42	(3.34)	3.40	3.29	3.42	(3.50)	3.27	3.43	3.12	3.14	3.24	81.07	
18	3.11	3.24	3.19	3.11	3.18	3.10	3.57	C	(3.46)	(3.30)	(3.50)	(3.50)	3.40	3.43	3.30	3.40	3.30	3.47	3.49	3.35	3.42	3.30	3.26	3.21	76.59	
19	3.31	3.07	(3.20)	3.36	3.24 ^F	(3.39 ^F)	3.66	(3.50)	(3.60)	3.69	3.47	3.50	3.44	3.33	3.22	3.26	3.46	3.41	3.51	3.60	3.46	3.37	(3.50)	(3.18)	81.67	
20	3.21	3.21	3.10	(3.40 ^F)	3.40	3.60	(3.81)	3.72	(3.68)	3.60	(3.40)	3.38	3.41	3.36	3.29	3.36	3.33	3.49	(3.30)	3.20	3.44	3.25	3.29	C	78.23	
21	C	C	C	C	C	C	C	C	C	C	3.45	3.42	3.40	3.45	(3.30)	3.39	3.31	3.41	3.41	3.39	3.25	3.31	3.19	3.29	46.97	
22	3.11	3.20	3.40 ^F	3.23 ^F	3.35 ^F	3.40 ^F	3.47	3.50	3.44	3.28	3.54	3.23	3.19	3.26	3.30	3.40	3.41	3.34	3.27	3.28	3.19	3.13	3.10	3.21	79.23	
23	3.28	3.22	3.40	3.45	(3.20 ^F)	(3.52)	3.49	3.75	3.64	(3.50 ^K)	3.43	C	3.25	3.33	3.52	3.29	3.39	3.38	3.34	3.30	3.10	3.20	3.19	3.20	77.37	
24	3.07	3.20	A	A	A	(3.30 ^F)	3.29	3.20	(3.40)	3.11	3.24	3.47	3.37	3.46	3.34	3.21	3.46	3.55	3.41	3.28	3.21	3.08	3.26	3.20	69.11	
25	3.21	3.11	3.24	3.20 ^F	3.27 ^F	(2.89 ^F)	3.41	3.60	3.40	3.62	3.47	3.40	3.41	C	3.39	3.48	3.41	3.49	3.43	3.47 ^F	3.28	3.26	3.11	3.17	76.72	
26	3.27	3.18	3.30 ^F	3.20 ^F	3.30 ^F	3.12 ^F	3.50	3.45	3.49	3.39	(3.58)	3.27	3.29	3.30	3.37	3.46	3.40	3.45	3.53	3.47	3.43	3.11	3.22	3.19	80.21	
27	3.26	3.10 ^F	3.22 ^F	3.18	3.12	3.21	3.40	3.60	(3.43)	3.35	3.35	3.21	3.40	3.32	C	3.23	3.25	3.40	3.50	3.27	3.43	3.28	3.10	3.14	75.75	
28	3.13	3.21	3.32 ^F	3.39	3.40 ^F	(3.49 ^F)	3.34	3.49	3.80	3.47	3.47	3.37	3.38	3.32	3.37	3.35	3.55	3.46	3.53	3.40	3.40	3.19	3.20	3.20	81.23	
29	3.10	3.13	3.21	3.33	3.20	3.14	(3.40)	3.48	3.40	(3.61)	3.50	3.55	3.20	3.50	3.36	3.40	3.33	3.48	3.49	3.49	3.21	(3.20)	3.18	3.17	80.06	
30	3.20	3.02	3.08	3.28	3.10	3.21	3.48 ^K	3.30 ^K	3.64 ^K	3.43 ^K	3.30 ^K	2.50 ^K	3.00 ^K	3.13 ^K	3.13 ^K	2.99 ^K	3.28	3.46	3.28	3.27	3.14	3.20	A	A	70.43	
31																										
Sum	92.69	92.31	90.83	90.93	91.10	88.89	101.27	95.31	98.49	98.50	98.19	96.99	95.96	92.71	91.87	99.34	100.24	101.96	101.52	100.45	99.93	98.07	94.08	91.13	2302.76	
Mean ¹	3.20	3.18	3.24	3.25	3.25	3.29	3.49	3.53	3.52	3.40	3.38	3.34	3.31	3.31	3.28	3.31	3.34	3.40	3.38	3.36	3.33	3.27	3.24	3.25		
Mean ²	3.18	3.18	3.26	3.25	3.25	3.30	3.50	3.54	3.52	3.41	3.39	3.39	3.33	3.32	3.30	3.33	3.36	3.41	3.39	3.36	3.34	3.27	3.24	3.25		
Median	3.20	3.20	3.22	3.24	3.24	3.30	3.48	3.50	3.49	3.41	3.41	3.38	3.35	3.31	3.30	3.32	3.32	3.41	3.40	3.36	3.34	3.28	3.21	3.22		

¹For all days of the month²For quiet days

F2-M3500

September, 1944

TABLE 51

IONOSPHERE DATA-11

(Location) Washington, D.C. Ionosphere Station

(Institution) National Bureau Of Standards

Hourly values of F1-M1500 for September 1944
(Month)

RESTRICTED

Records measured by: S.M.O.
H.P.G.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1									2.61	2.65	2.67	2.72	2.60	2.55	2.54	2.50	2.51	2.55	2.37 ^A	K					28.12	
2									2.46 ^K	2.50 ^K	2.51	2.75 ^K	2.79 ^K	2.82 ^K	2.83 ^K	2.46 ^K	2.47 ^K	2.50	2.45 ^K						33.72	
3									2.52 ^K	2.60	2.50	2.74	2.56	2.5	2.43	2.52	2.46	2.65							25.54	
4									2.62	A	2.68	2.65	2.79	2.70	2.34	C	2.42	2.36	2.50 ^K						23.56	
5									2.61	2.53	2.65	2.71 ^K	2.35	C	2.50	2.41	2.44	2.45	2.61						26.22	
6									2.61 ^K	2.64	2.73	2.65	2.70	2.79	2.72	2.52	2.60	2.57	2.40						28.12	
7									(2.80)	2.53	2.76	2.74	2.61	2.70	2.40	2.38	2.52	2.51							25.95	
8									(2.60)	2.46	2.54	2.60	2.55	2.55	2.55	2.45	2.42	2.41							25.1	
9									2.42	2.55	2.50	2.64	2.63	2.80	2.66	2.50	2.44	2.41 ^A	2.35 ^K	A					27.84	
10									2.52 ^K	(2.60)	2.65	2.51	2.62 ^K	2.60	2.64	2.47	2.40	2.44	2.50						28.23	
11									2.48 ^K	2.50 ^K	2.60	2.51	2.60	2.62	2.65	2.57 ^K	2.37	2.37	2.43						28.30	
12										2.51	2.68	2.74	2.70 ^K	2.85	(2.35)	2.50	A								18.33	
13									C	2.68	2.80	2.70	2.75	2.64	2.47	2.58	2.56	2.54							23.12	
14									2.50	2.61	2.86	(3.05)	2.84	2.61	2.57	2.47	2.52								27.54	
15									2.80	2.66	(2.82)	2.80	2.80	2.64	2.72	2.78	2.61								24.12	
16									2.62	(2.50)	(2.70)	2.54 ^K	2.40	2.84	2.59 ^K	2.64	2.40	A	B						23.73	
17										2.85	(2.80)	2.80 ^K	(3.05)	2.80	2.52 ^K	2.55	2.55	2.35	2.21 ^K						26.48	
18									(2.51)	2.64	2.63	(2.72)	2.83	2.64	2.70 ^K	2.41	2.51	2.62 ^K							26.26	
19									2.79	2.67	2.72	2.72	2.65	2.68	2.59	2.50	2.56								23.83	
20									C	C	C	2.66	2.61	2.82	(2.45)	C	2.40	2.41							15.35	
21									2.80	2.48	2.51	2.47	2.72	2.84	2.54	(2.50)	2.46	2.35	2.60						21.34	
22										2.64	2.46	C	2.51	2.50	2.40	2.50	2.53 ^K								17.54	
23										2.57	2.61	2.50	2.68	2.64 ^K	2.55	2.42	2.30								23.27	
24										2.47 ^K	2.54	2.50	2.72	2.80	C	2.50	2.47	2.44							22.44	
25									2.57	2.57	2.57	2.80	2.60	2.67 ^K	2.40 ^K	2.65	2.48								23.31	
26									2.60	2.43	2.48	2.61	2.54	2.50	C	2.41	2.33								17.75	
27										2.51	(2.60)	2.50	2.74	(2.57)	2.43	2.37	(2.51)								20.23	
28									2.50	A	(2.72)	2.79	2.78	(2.75)	2.35	2.49	2.60								21.48	
29									K(2.47 ^K)	2.60 ^K	2.74 ^K	2.73 ^K	2.68 ^K	2.38 ^K	2.37 ^K	2.44 ^K	2.44								22.85	
30																										
31																										
Sum									2895	5951	7275	7917	7838	7854	7297	6771	7414	6876	3982	245					723.75	
Mean ¹									2.63	2.59	2.60	2.64	2.72	2.71	2.61	2.51	2.47	2.46	2.49	2.45						
Mean ²									2.65	2.60	2.60	2.63	2.72	2.70	2.62	2.52	2.47	2.46	2.51	2.45						
Median									2.61	2.55	2.60	2.64	2.72	2.70	2.60	2.50	2.46	2.46	2.50	2.45						

¹For all days of the month²For quiet days

F1-M1500

September, 1944

TABLE 52

IONOSPHERE DATA-12

Washington, D. C.

Ionosphere station

National Bureau Of Standards

(Institution)

Hourly values of E-M1500 for September, 1944.
(Monthly)S.M.O.
H.P.G.

TIME: 75° W MERIDIAN

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Sum	Mean
1								379 ^K	A (386) K	A (386) K	A (386) K	A (386) K	A (386) K	A (386) K	A (386) K	A (386) K	A (386) K	A (386) K	A (386) K						19.58	
2								378	400	400	400	400	400	400	400	400	400	400	400						11.21	
3								371																	15.39	
4																									7.73	
5																									7.75	
6							341	368																	25.71	
7										380	382														30.21	
8																									18.45	
9																									22.31	
10																									19.06	
11																									23.71	
12																									34.50	
13																									19.38	
14																									23.40	
15																									19.38	
16																									31.10	
17																									23.37	
18																									11.50	
19																									22.21	
20																									11.82	
21																									15.28	
22																									19.21	
23																									18.75	
24																									15.28	
25																									15.32	
26																									19.72	
27																									11.34	
28																									19.08	
29																									7.95	
30																									19.27	
31																									566.97	
Sum																										
Mean ¹																										
Mean ²																										
Median																										

¹For all days of the month²For quiet days

E-M1500

September, 1944

Table 53

Ionospheric Storminess, September, 1944

Day	Ionospheric Character*		Principal Storms		Magnetic Character**	
	00-12 GCT	12-24 GCT	Beginning GCT	End GCT	00-12 GCT	12-24 GCT
September						
1	2	2	2130	-----/	3	2
2	4	4	-----	2200	4	3
3	3	2			2	1
4	3	2			1	2
5	2	1			2	1
6	1	1			1	2
7	2	2			2	1
8	2	2			2	2
9	1	1			2	1
10	2	3	2100	-----	2	2
11	4	2	-----	1000	2	2
12	2	2			3	2
13	2	1			1	2
14	1	1			2	2
15	1	2			2	0
16	1	2			1	1
17	1	1			1	2
18	1	2			2	2
19	2	1			1	1
20	2	0			1	3
21	***	2			3	2
22	2	3			2	2
23	1	1			2	2
24	3	3			4	3
25	1	1			2	2
26	2	2			2	2
27	3	2			2	2
28	2	1			2	1
29	2	2			2	1
30	2	4	1100	2100	2	4

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D.C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of American magnetic K-figure, determined by a number of observatories, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

***No record.

/Dashes indicate continuance of ionospheric storminess.

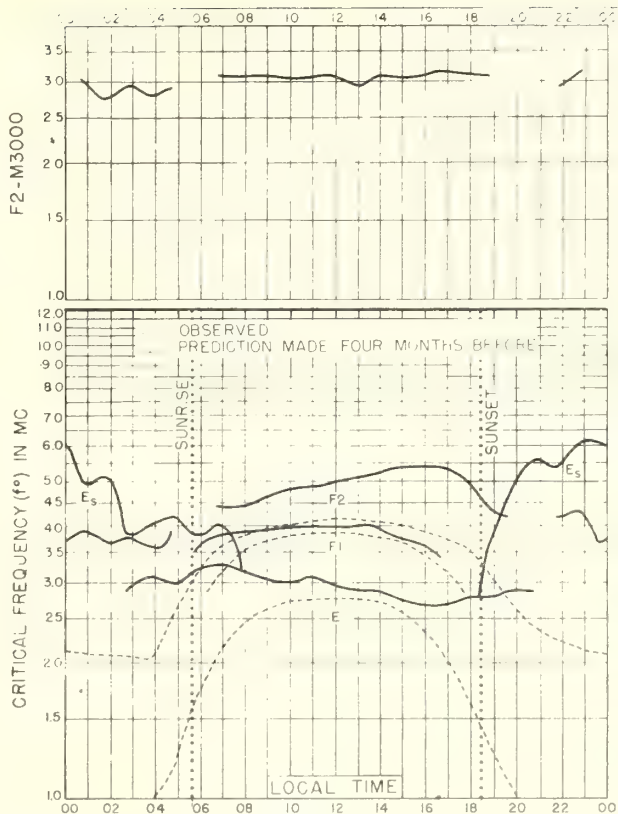


Fig. 1. CHURCHILL, CANADA
588°N, 942°W
SEPTEMBER, 1944

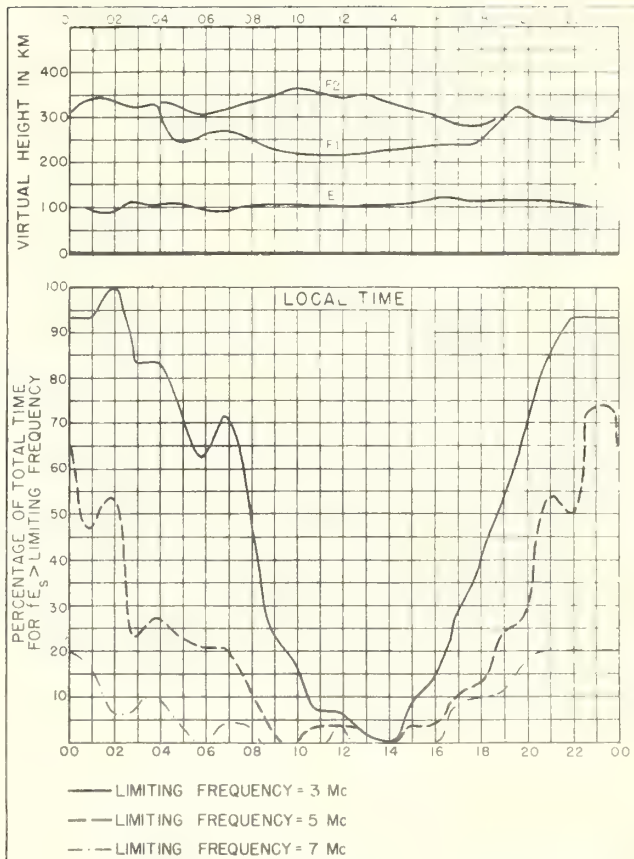


Fig. 2. CHURCHILL, CANADA
SEPTEMBER, 1944

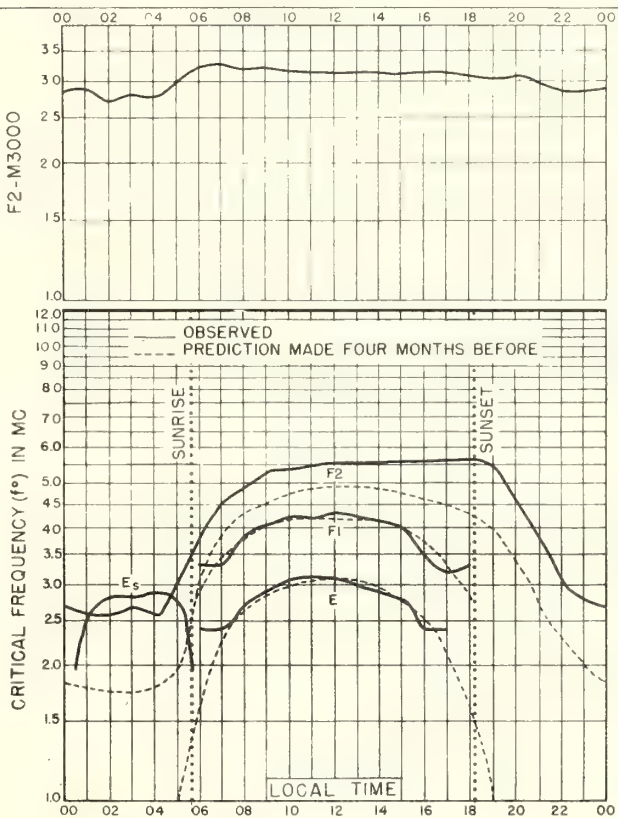


Fig. 3. OTTAWA, CANADA
455°N, 758°W
SEPTEMBER, 1944

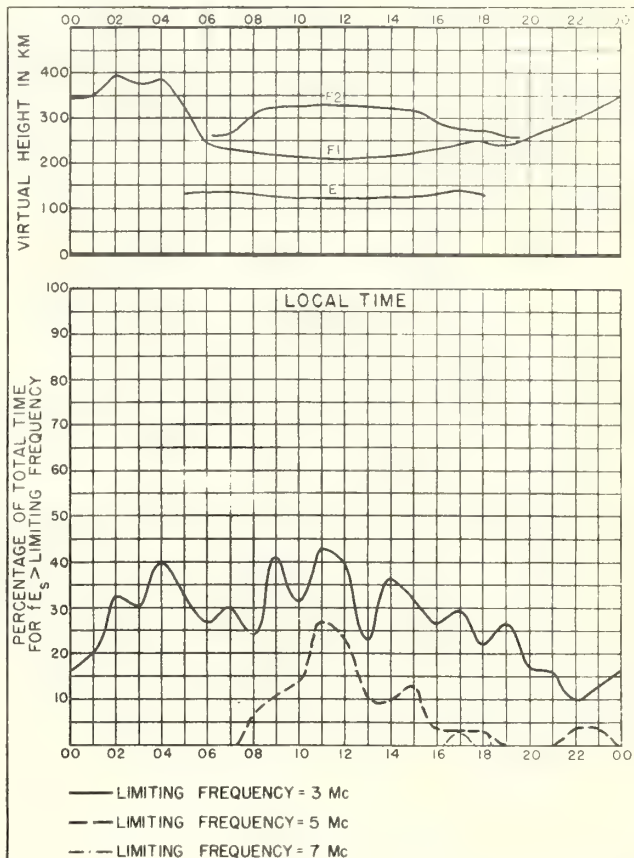


Fig. 4. OTTAWA, CANADA
SEPTEMBER, 1944

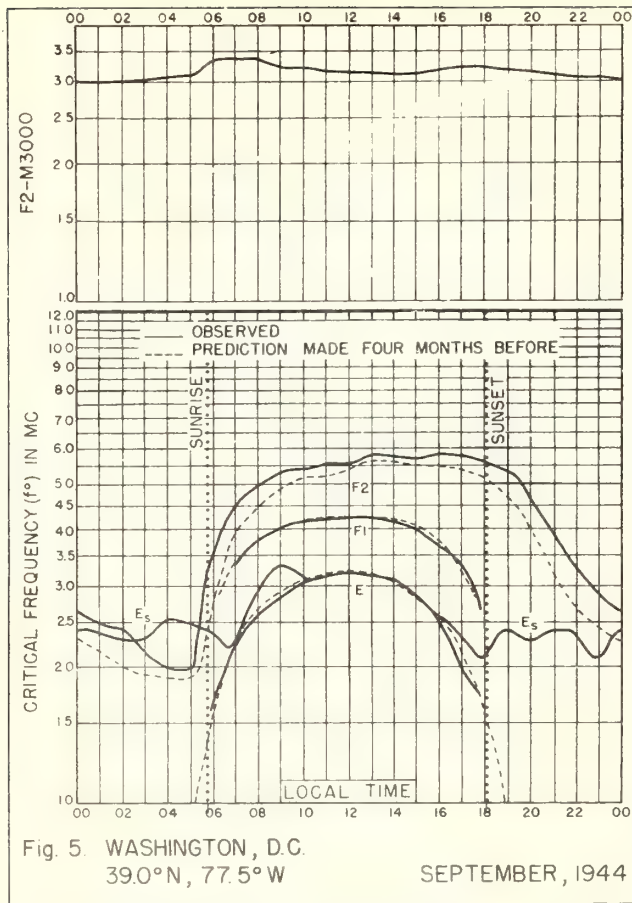


Fig. 5. WASHINGTON, D.C.
39.0°N, 77.5°W SEPTEMBER, 1944

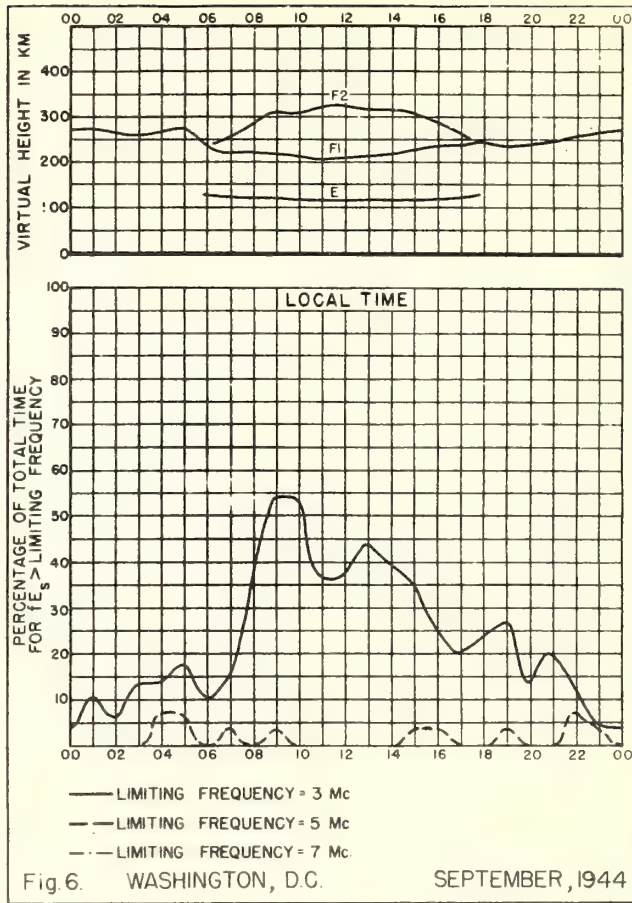


Fig. 6. WASHINGTON, D.C. SEPTEMBER, 1944

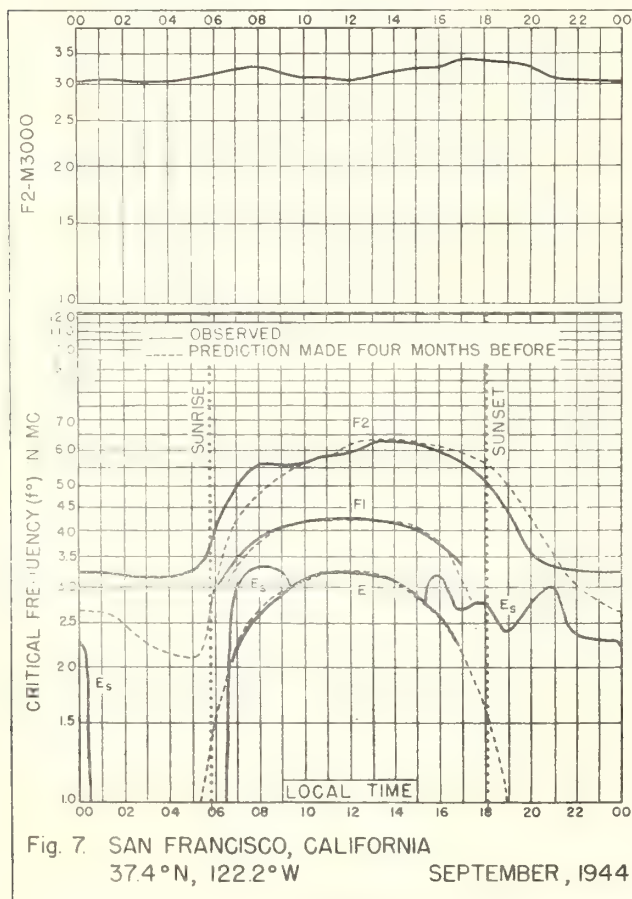


Fig. 7. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W SEPTEMBER, 1944

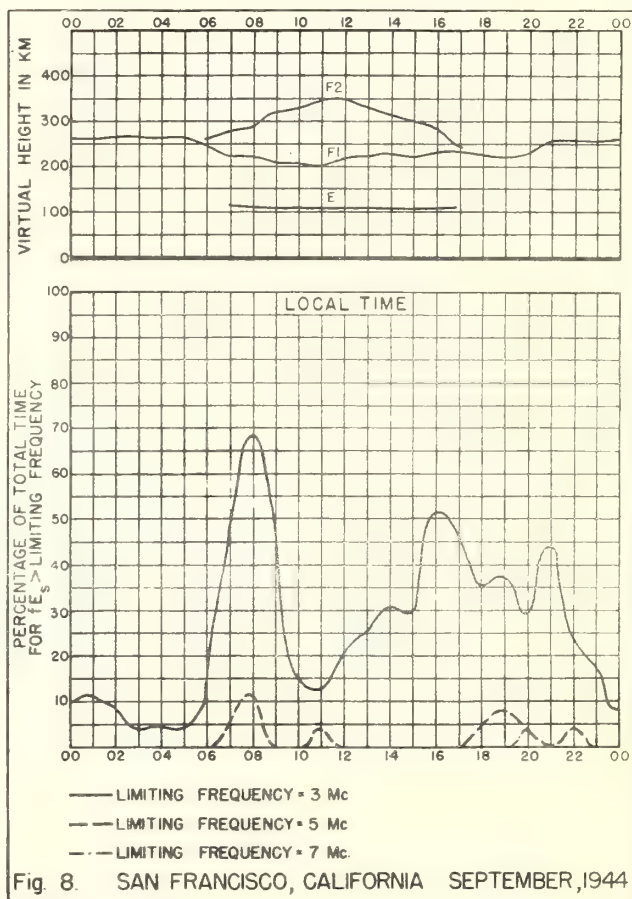


Fig. 8. SAN FRANCISCO, CALIFORNIA SEPTEMBER, 1944

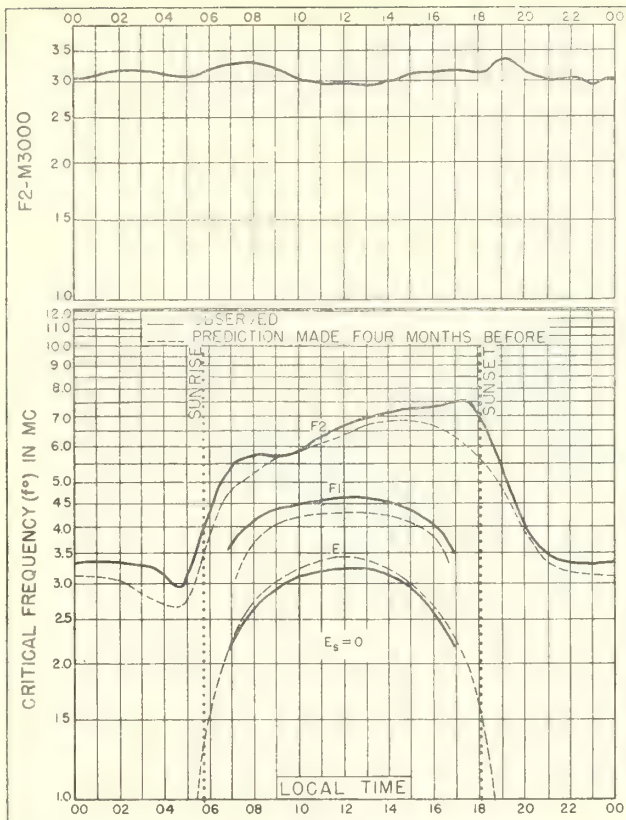


Fig. 9. BATON ROUGE, LOUISIANA
30.5°N, 91.2°W
SEPTEMBER, 1944

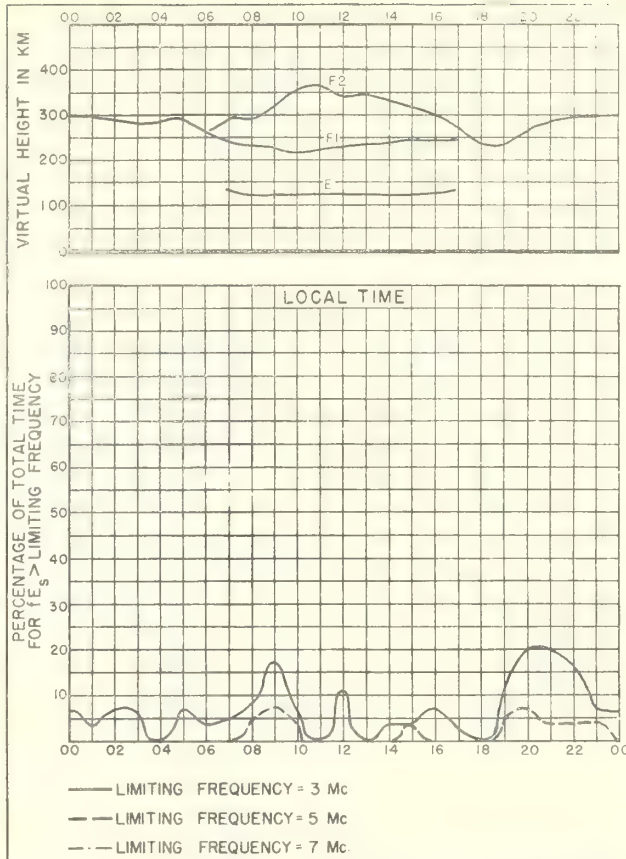


Fig. 10. BATON ROUGE, LOUISIANA
SEPTEMBER, 1944

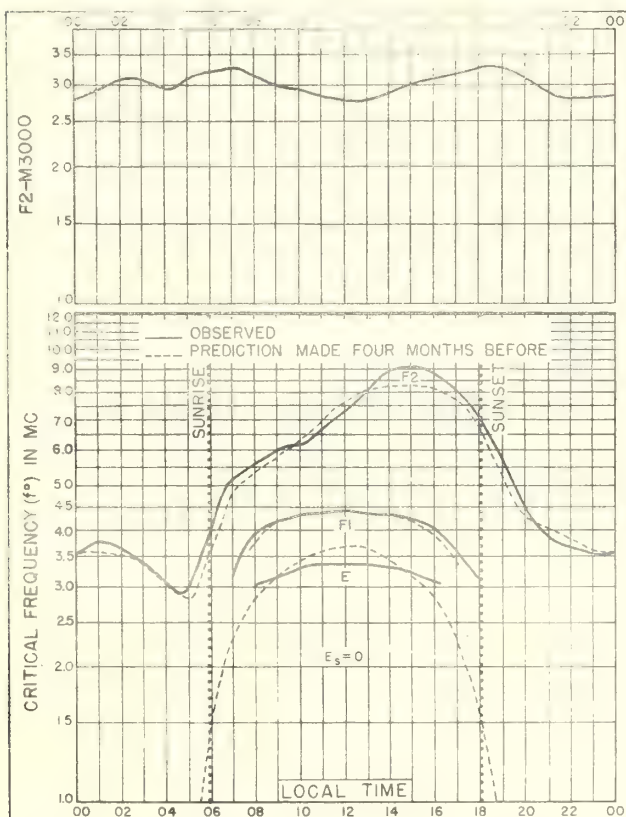


Fig. 11. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W
SEPTEMBER, 1944

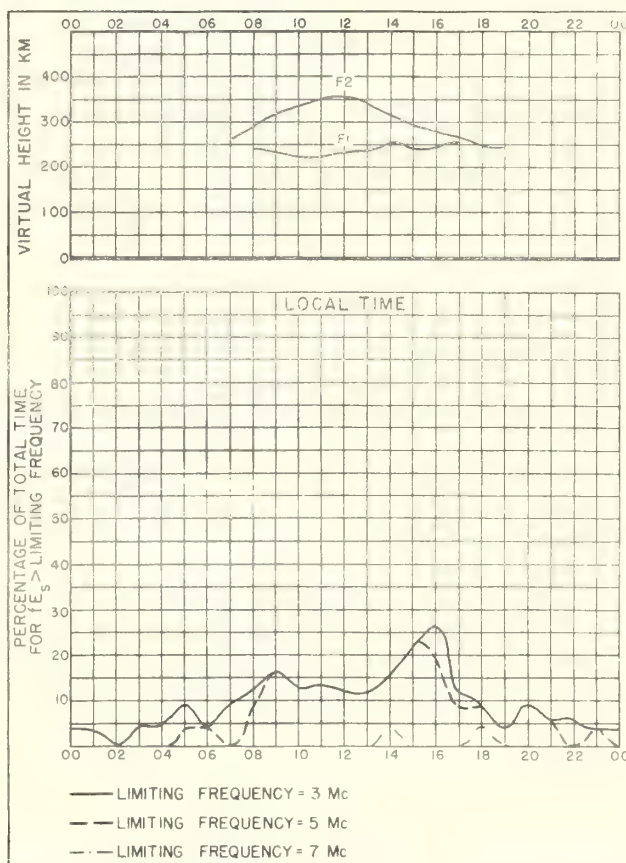
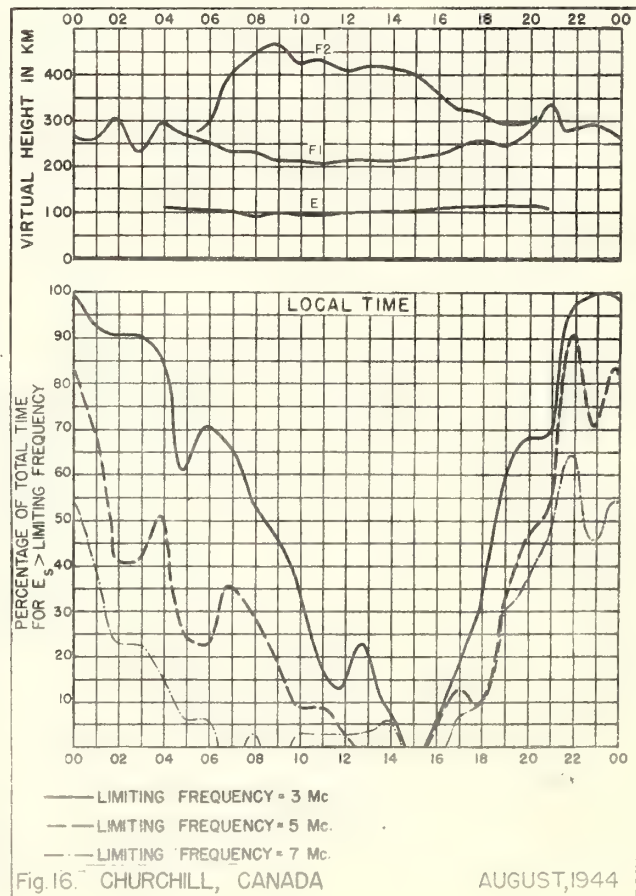
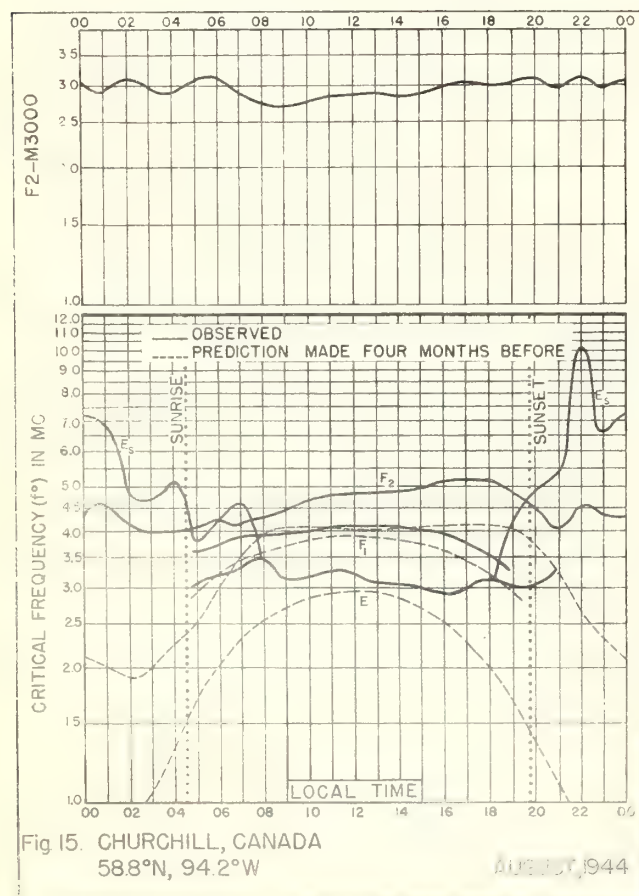
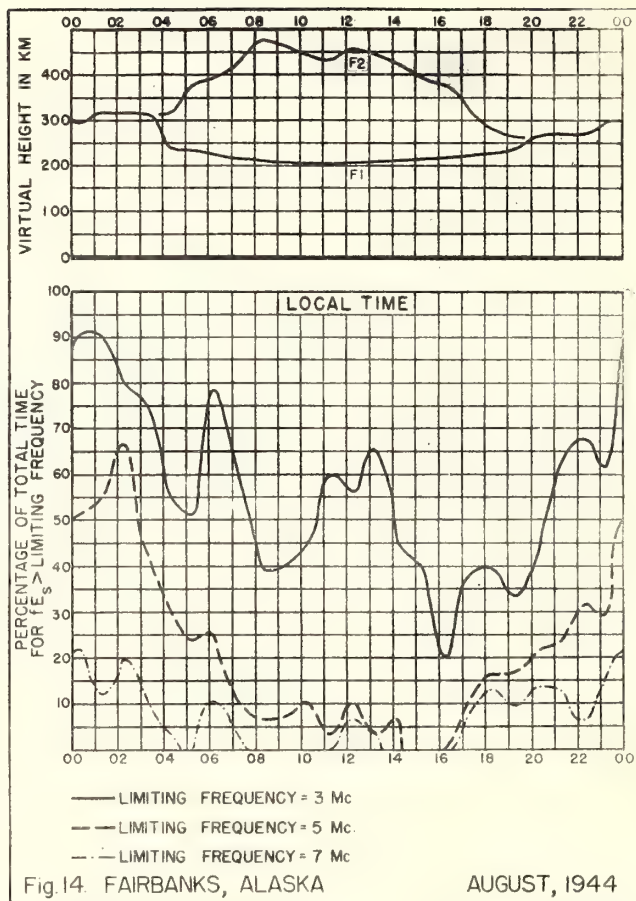
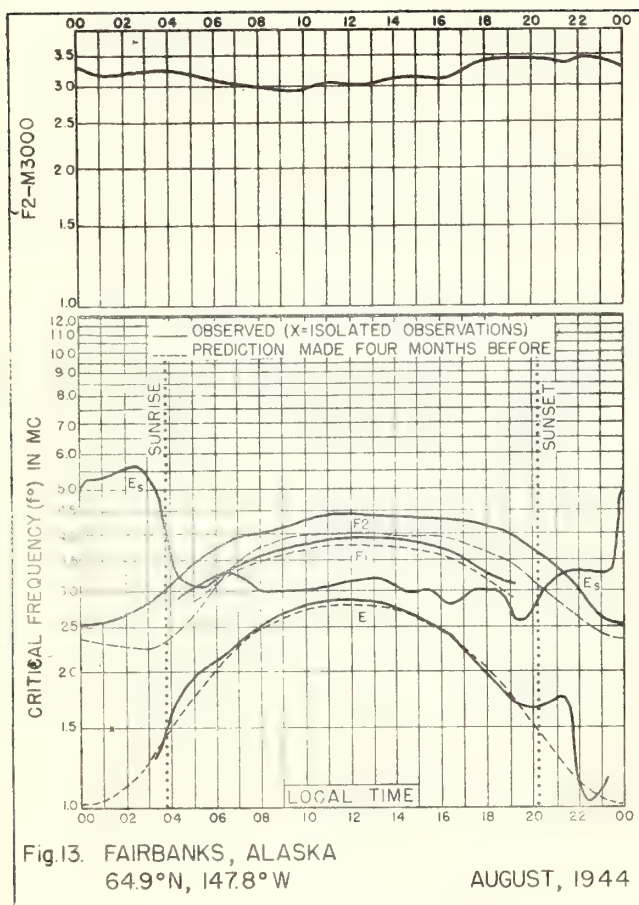
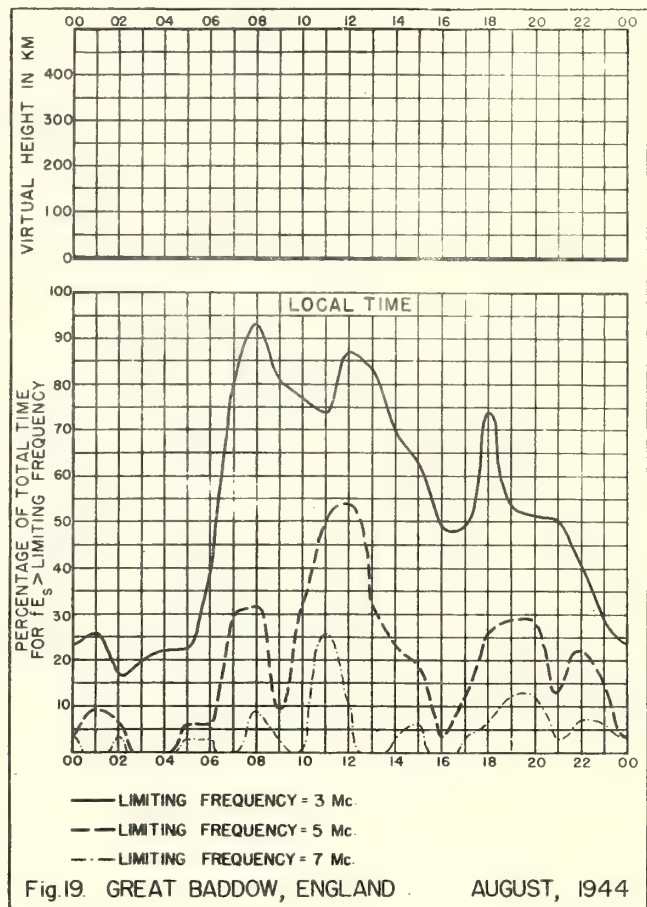
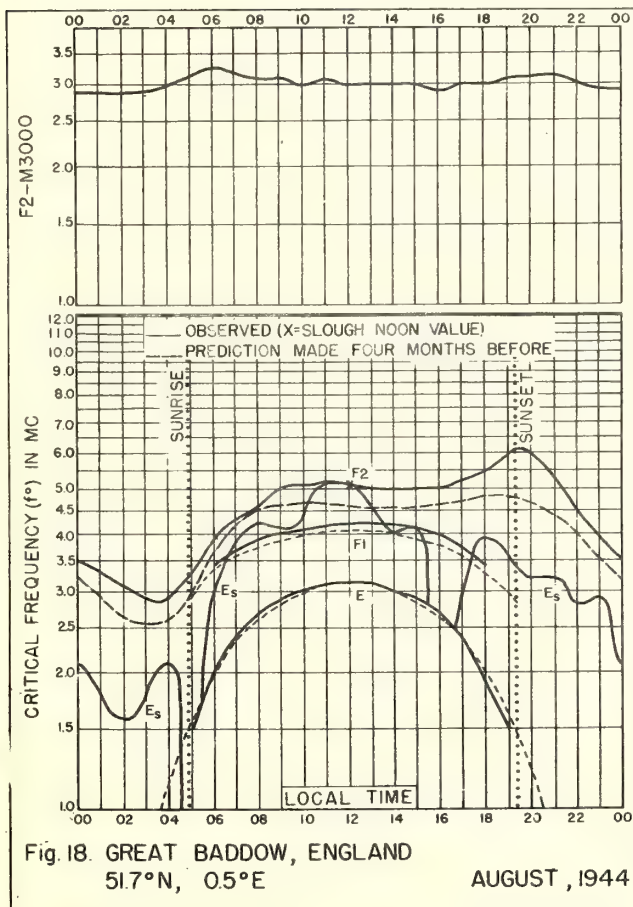
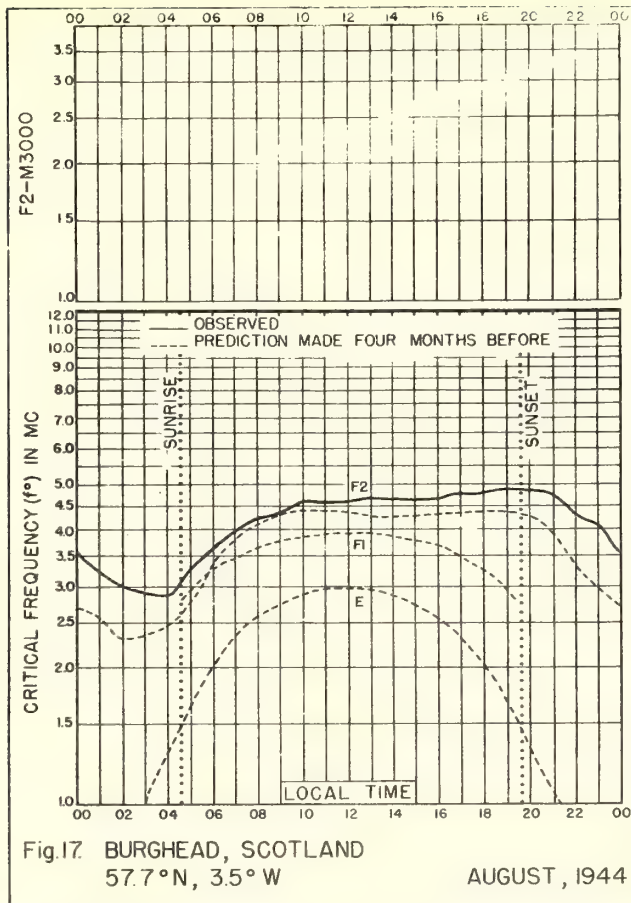


Fig. 12. SAN JUAN, PUERTO RICO
SEPTEMBER, 1944





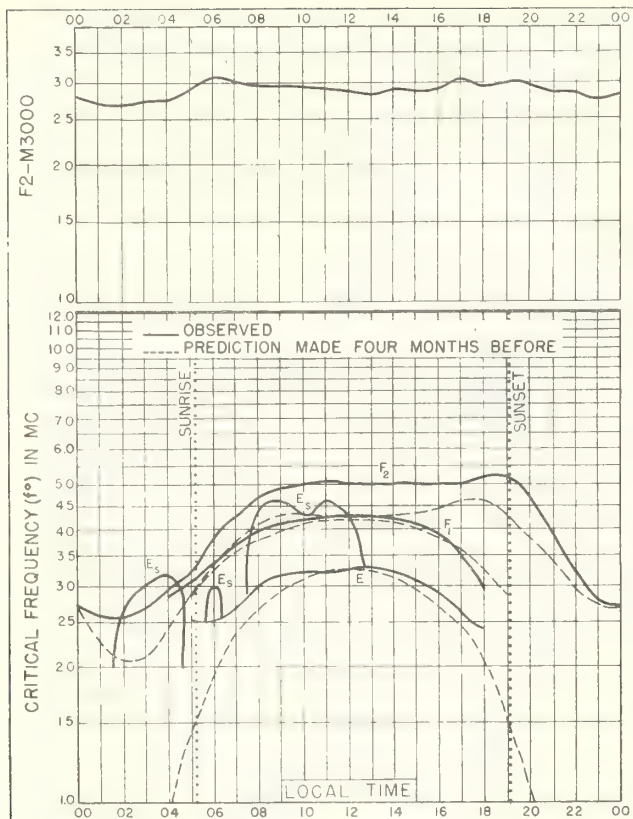


Fig 20 OTTAWA, CANADA
45.5°N, 75.8°W

AUGUST, 1944

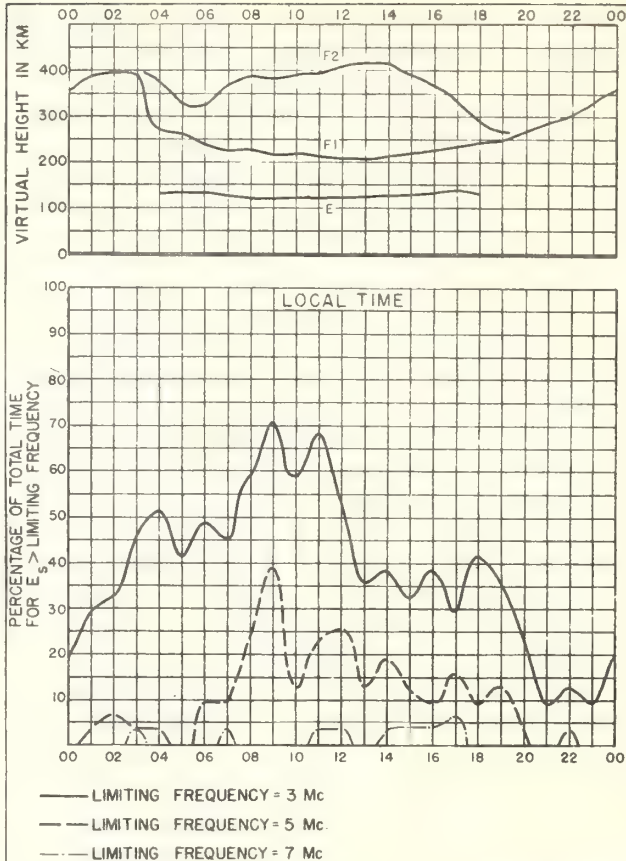


Fig 21. OTTAWA, CANADA

AUGUST, 1944

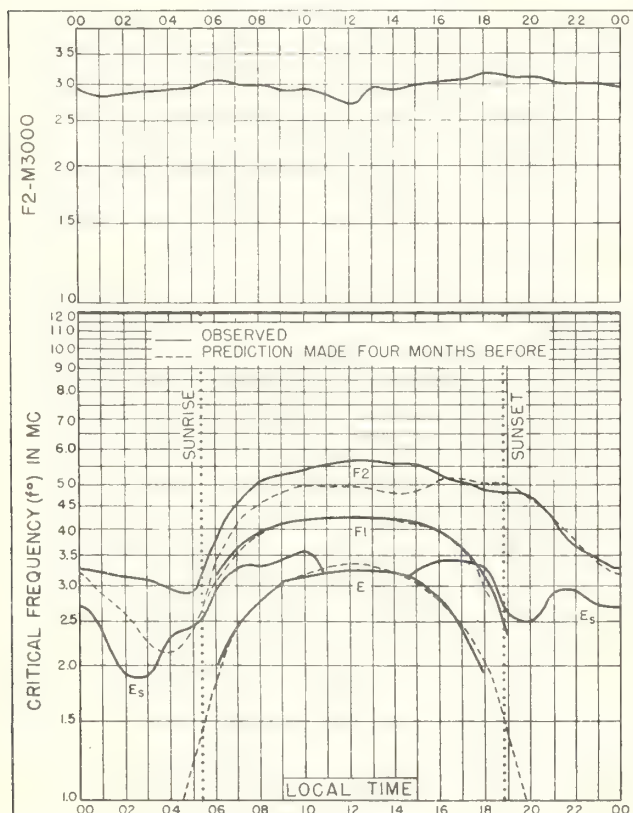


Fig 22. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W

AUGUST, 1944

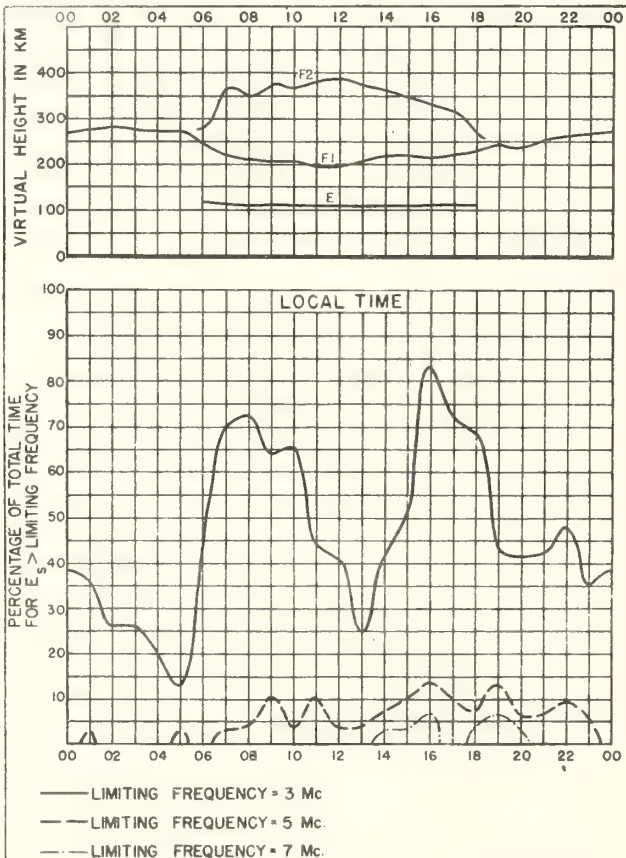


Fig 23. SAN FRANCISCO, CALIFORNIA

AUGUST, 1944

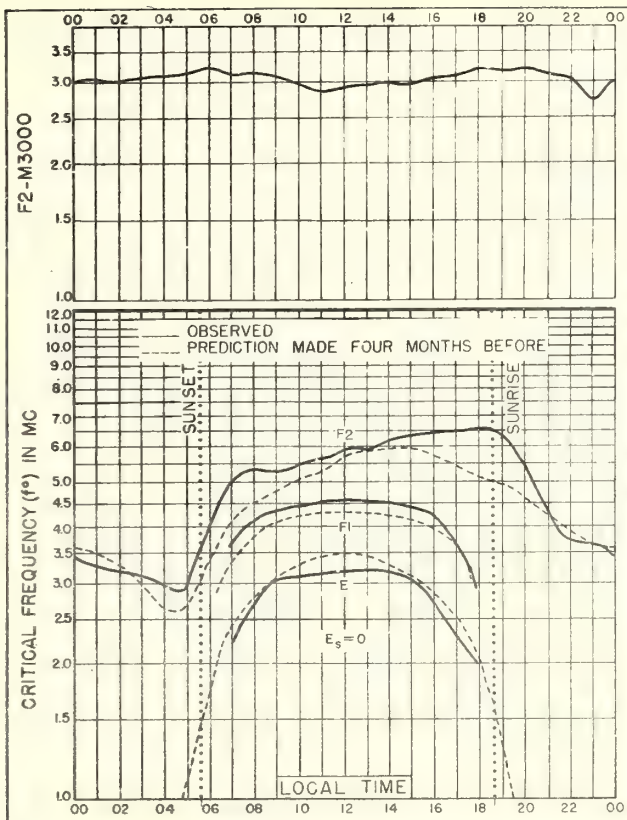


Fig 24. BATON ROUGE, LOUISIANA
305°N, 912°W

AUGUST, 1944

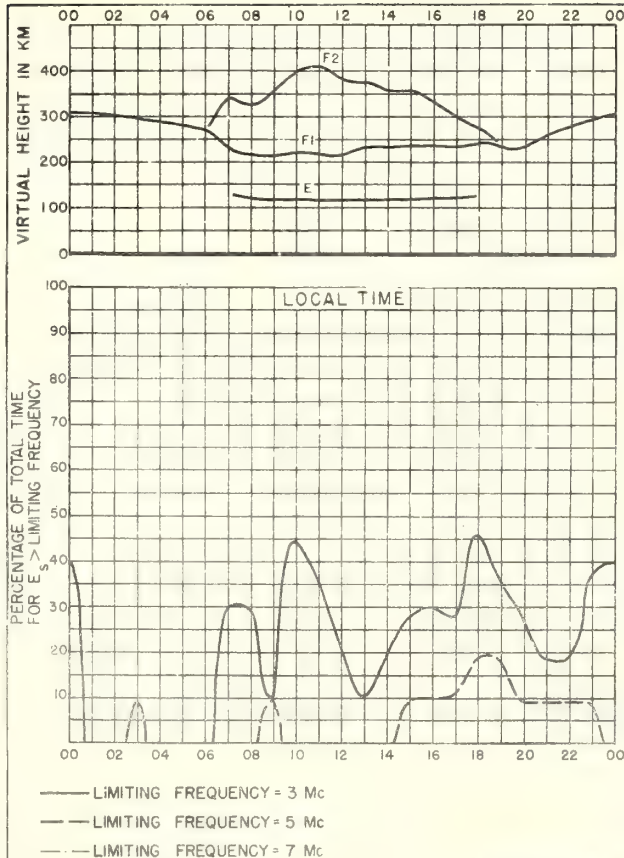


Fig 25. BATON ROUGE, LOUISIANA

AUGUST, 1944

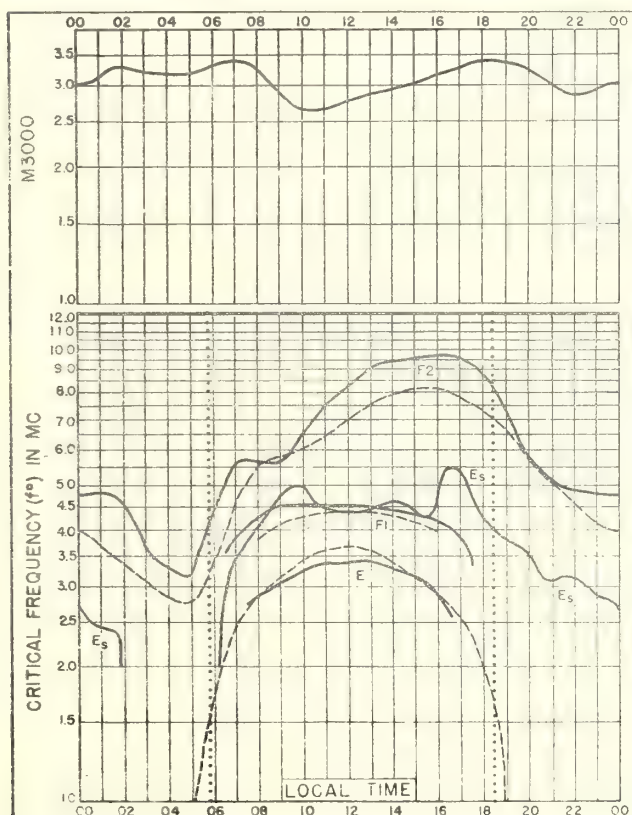


Fig 26. MAUI, HAWAII
20.8°N, 156.5°W

AUGUST, 1944

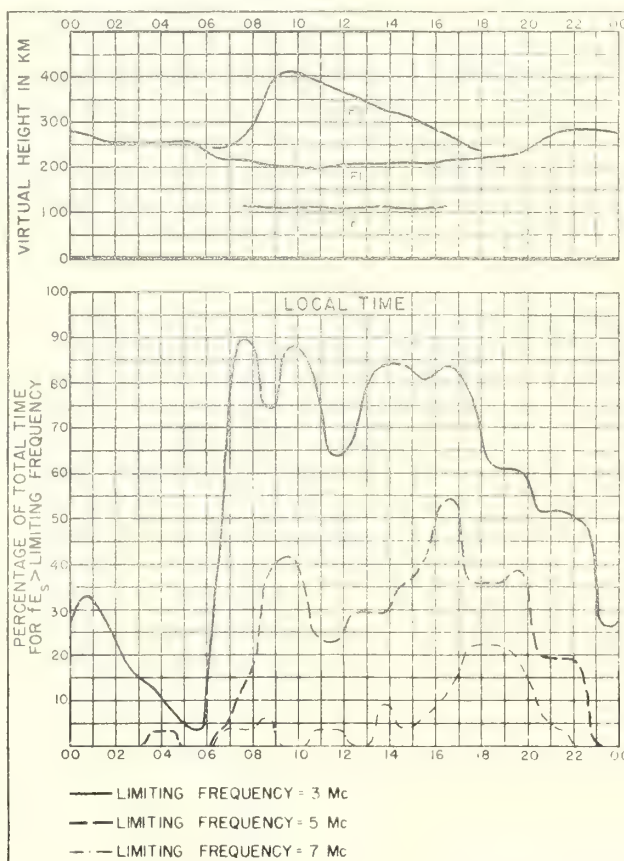


Fig 27. MAUI, HAWAII

AUGUST, 1944

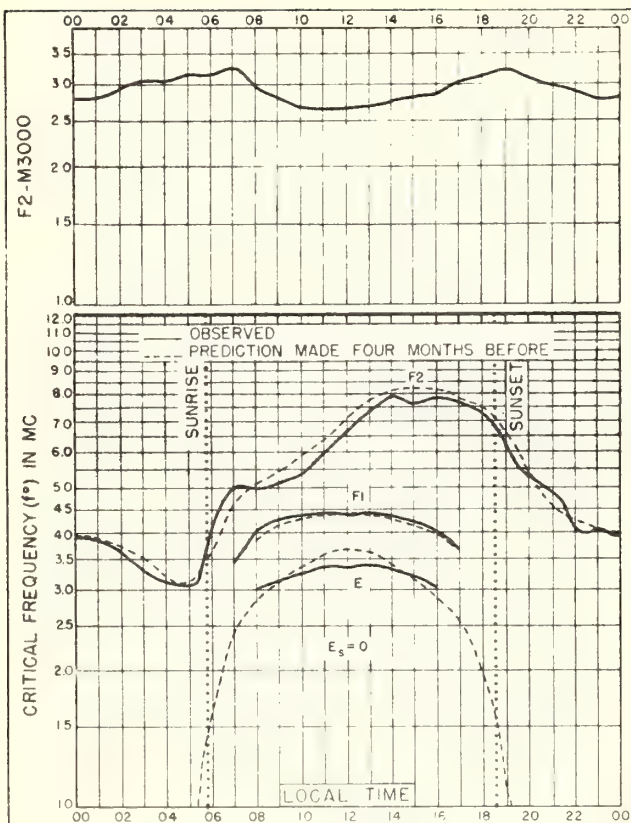
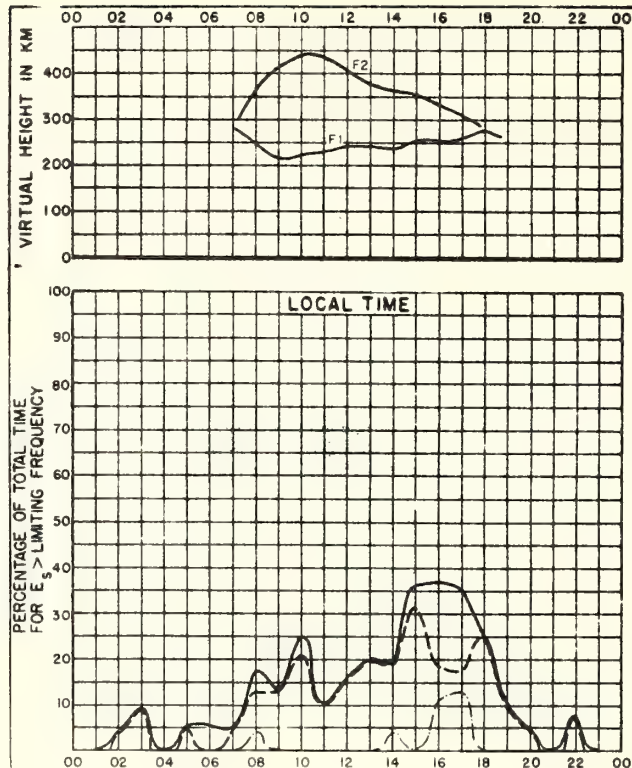


Fig.28. SAN JUAN, PUERTO RICO
184°N, 66.1°W

AUGUST, 1944



— LIMITING FREQUENCY = 3 Mc
- - - LIMITING FREQUENCY = 5 Mc
... LIMITING FREQUENCY = 7 Mc

Fig 29 SAN JUAN, PUERTO RICO

AUGUST, 1944

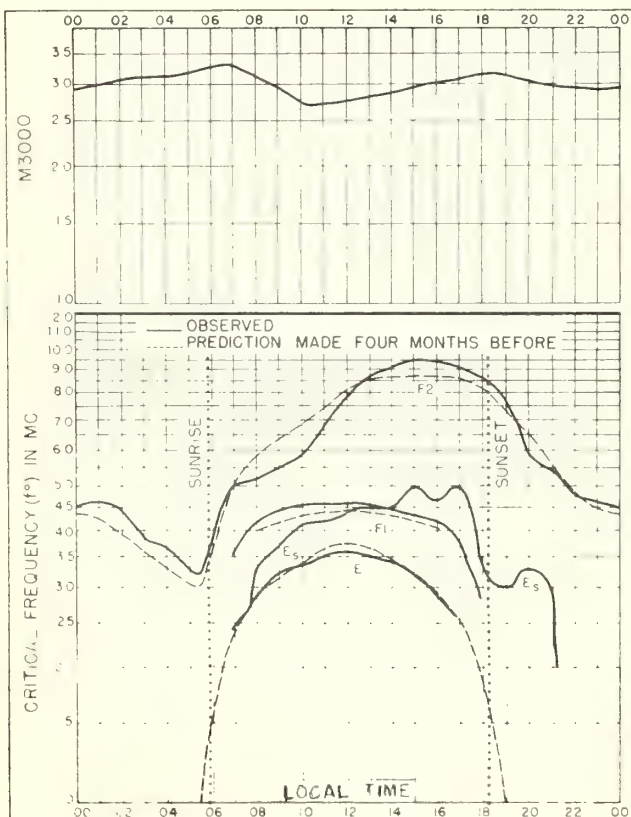
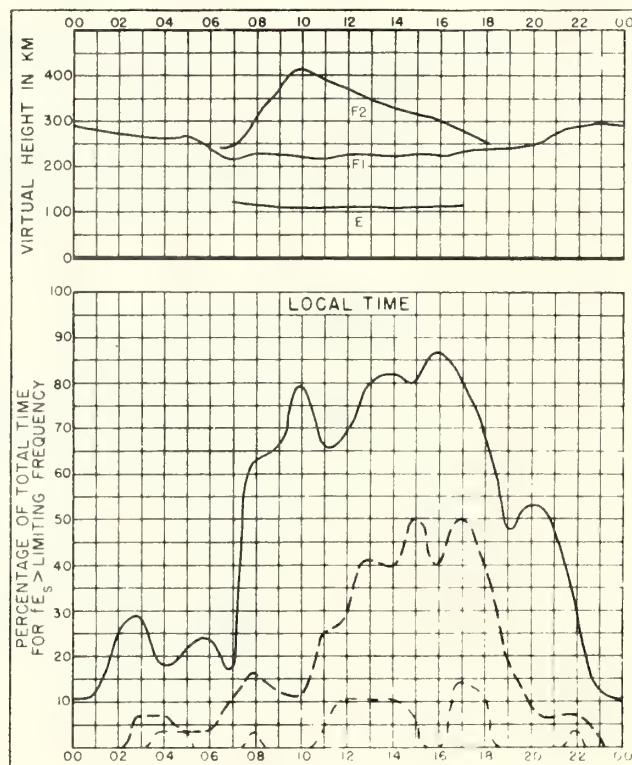


Fig 30 TRINIDAD, BRIT. WEST INDIES
106°N, 61.3°W

AUGUST, 1944



— LIMITING FREQUENCY = 3 Mc
- - - LIMITING FREQUENCY = 5 Mc
... LIMITING FREQUENCY = 7 Mc

Fig 31 TRINIDAD, BRIT. WEST INDIES

AUGUST, 1944

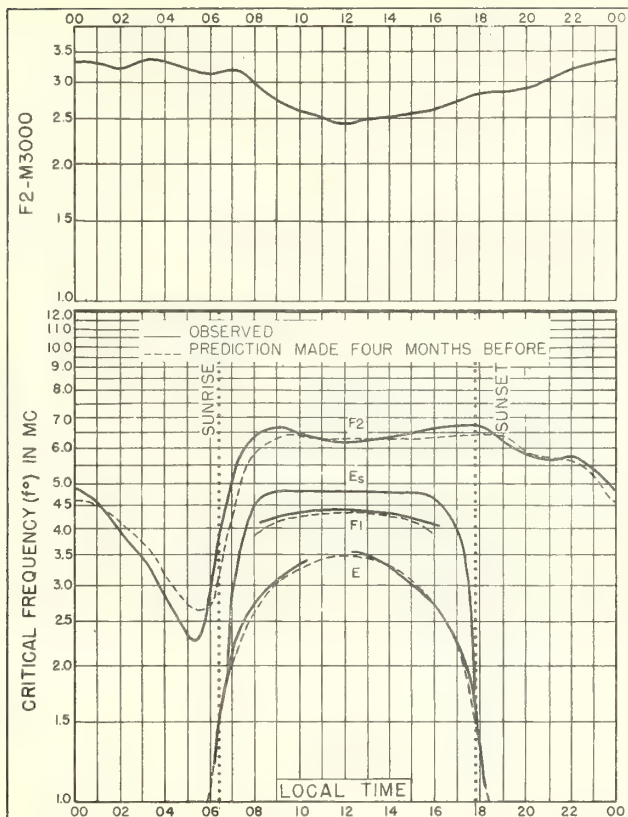


Fig.32. HUANCAYO, PERU
12.0°S, 75.3°W

AUGUST, 1944

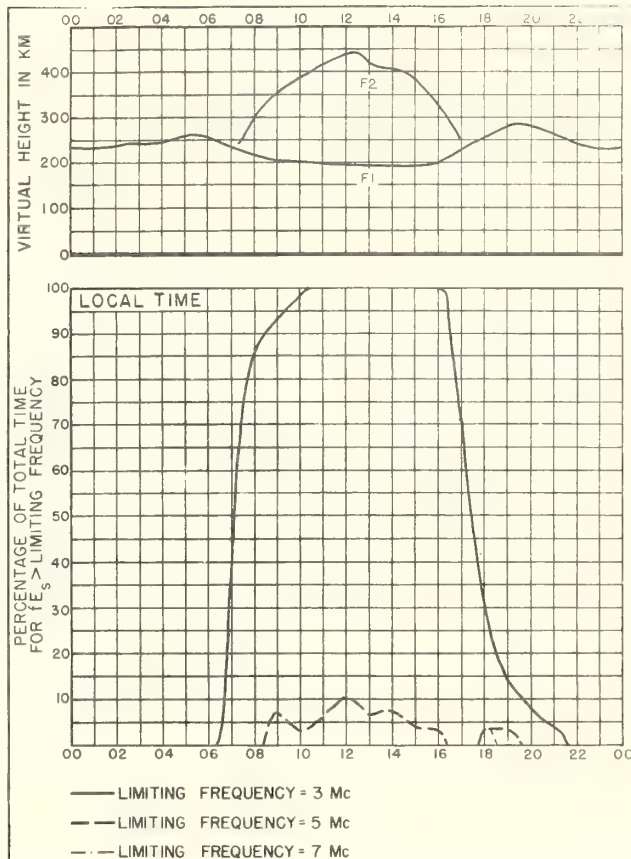


Fig.33. HUANCAYO, PERU

AUGUST, 1944

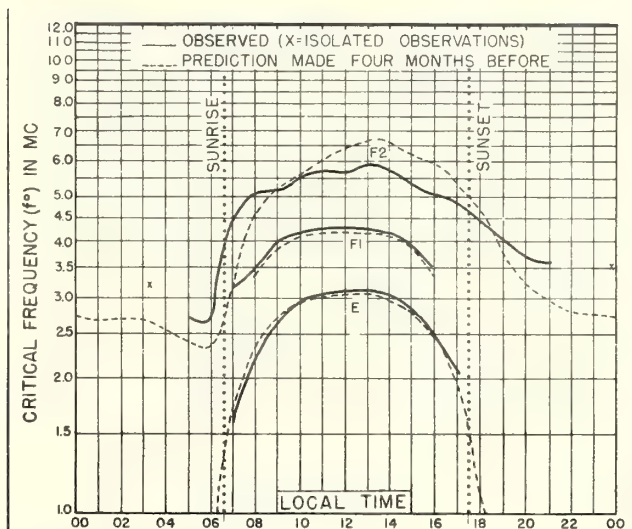
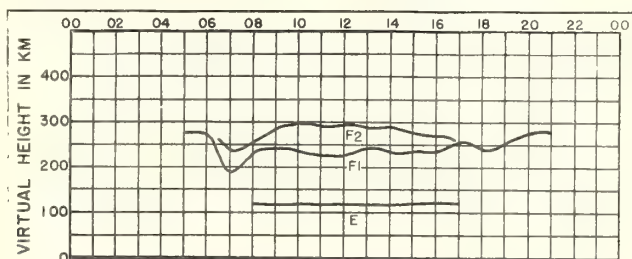


Fig.34. KERMADEC, IS.
29.2°S, 177.9°W

AUGUST, 1944

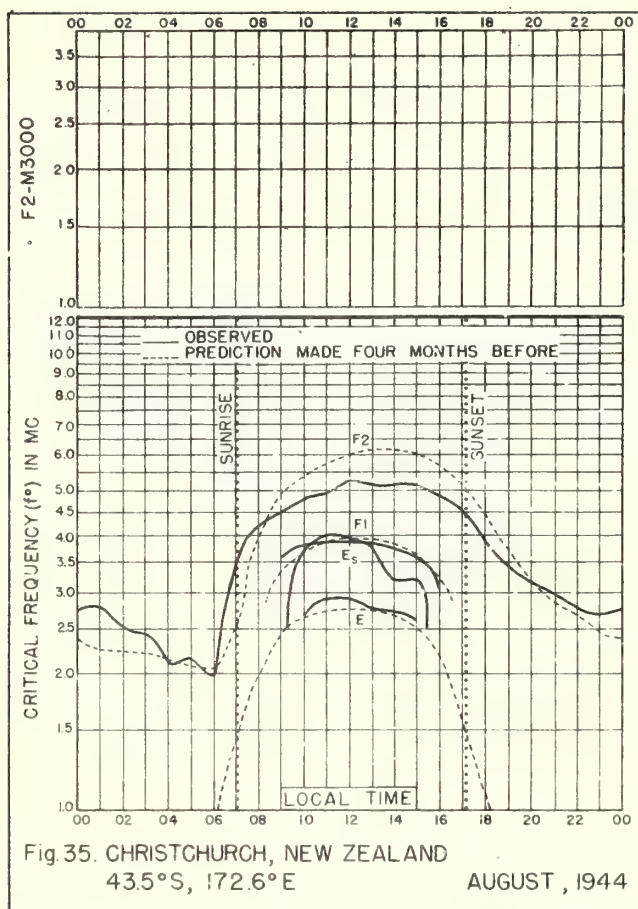


Fig 35. CHRISTCHURCH, NEW ZEALAND
43.5°S, 172.6°E

AUGUST, 1944

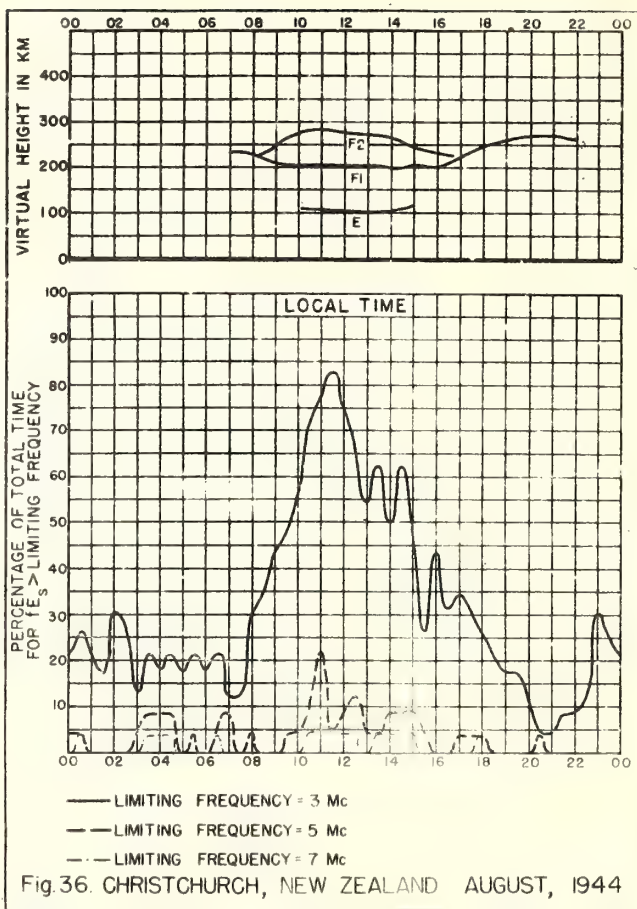


Fig 36. CHRISTCHURCH, NEW ZEALAND AUGUST, 1944

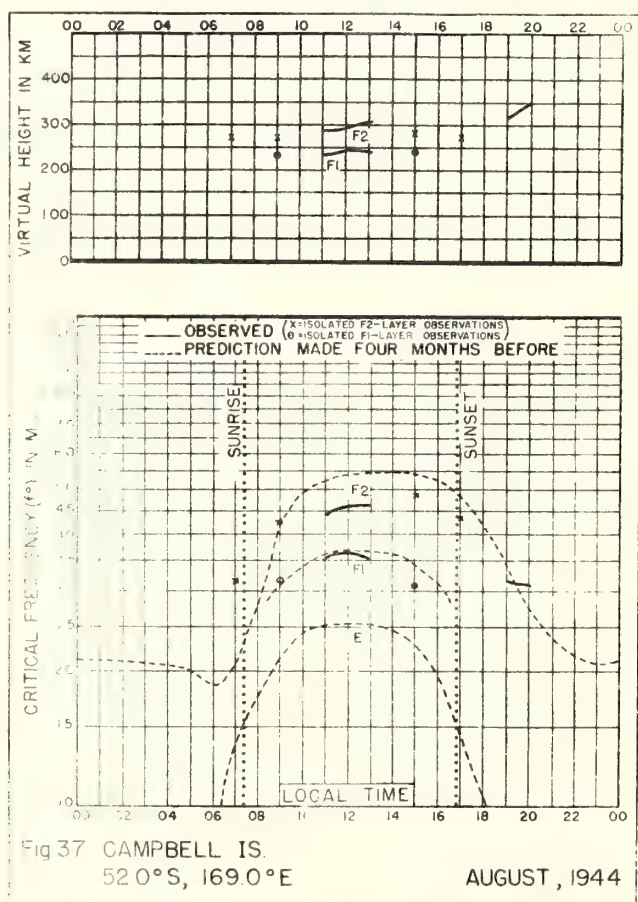
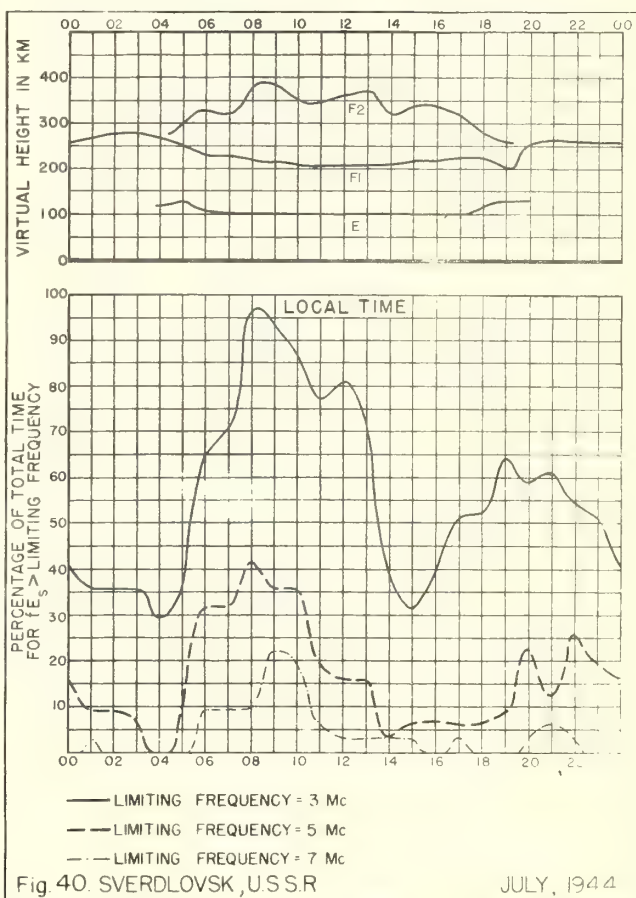
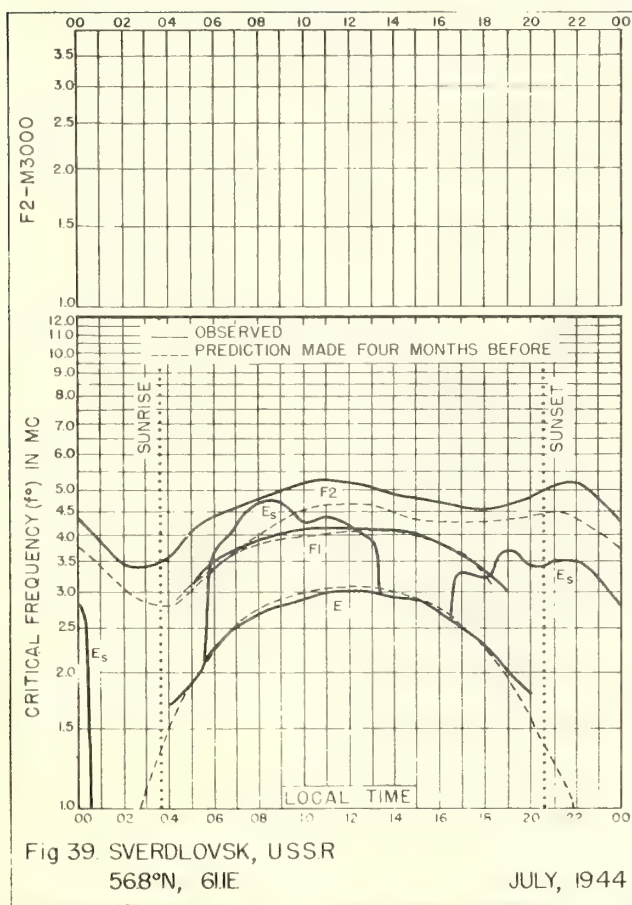
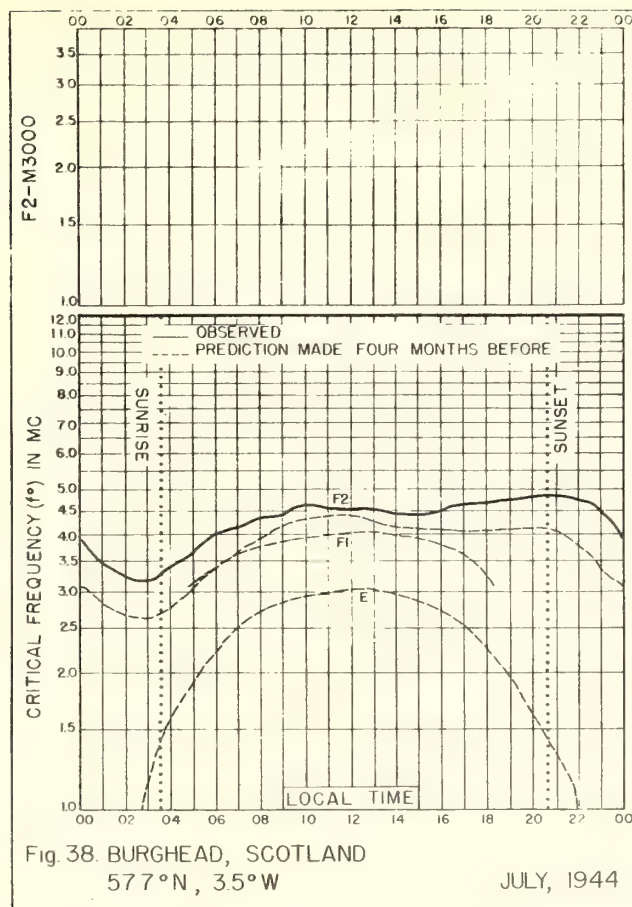
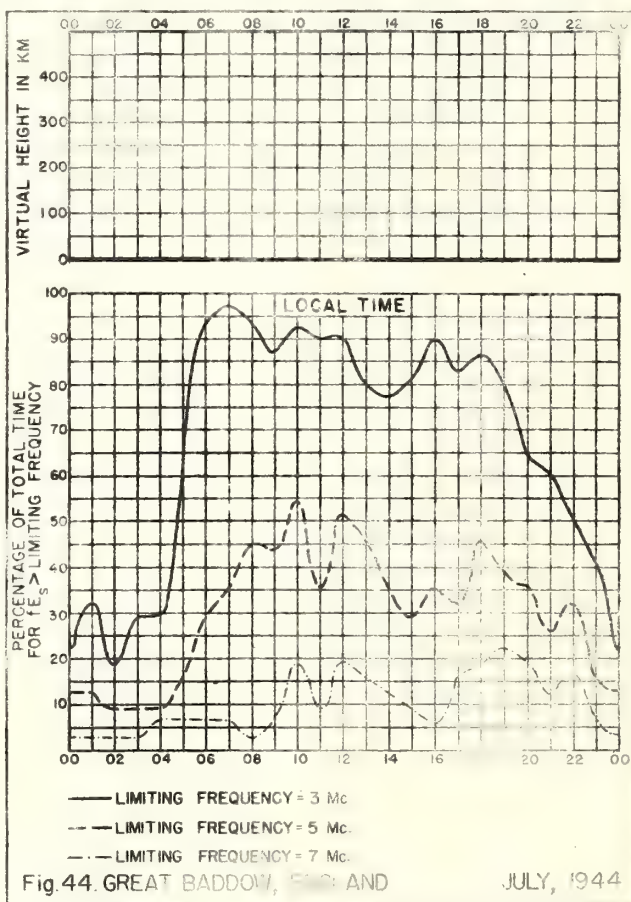
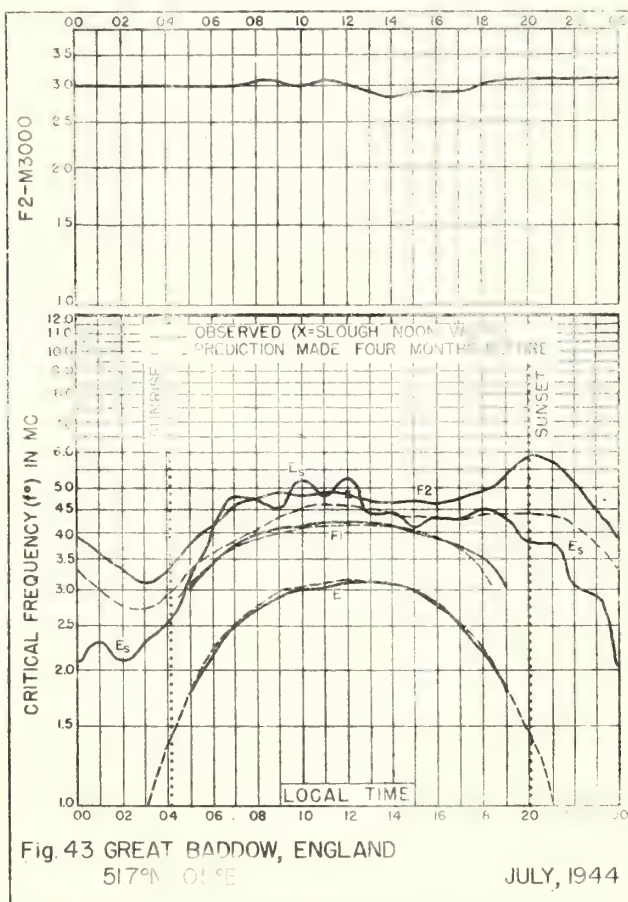
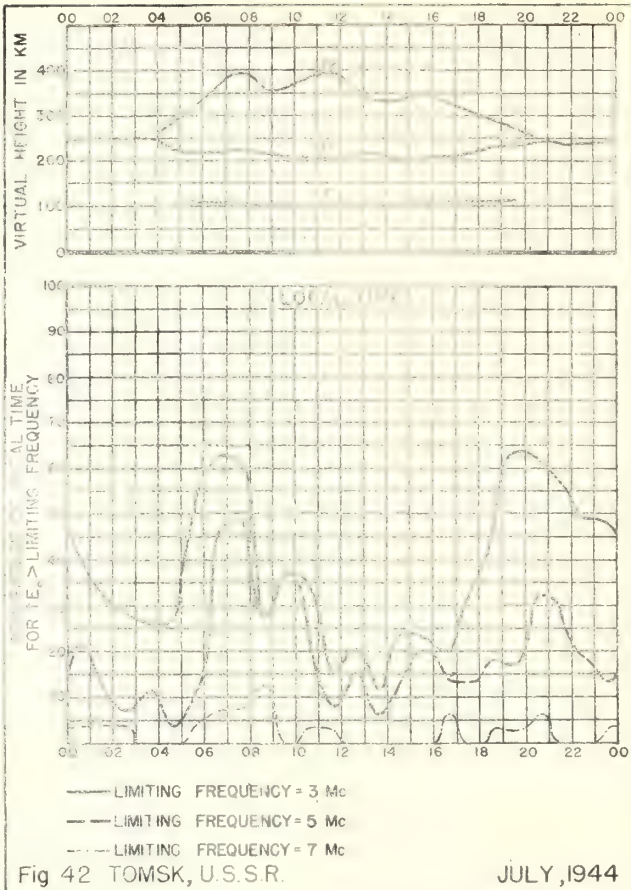
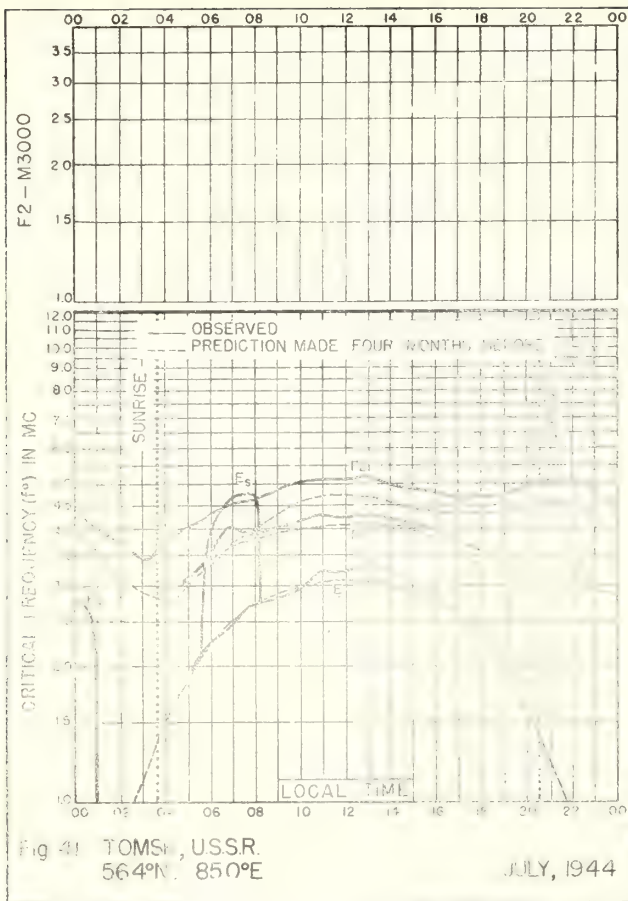
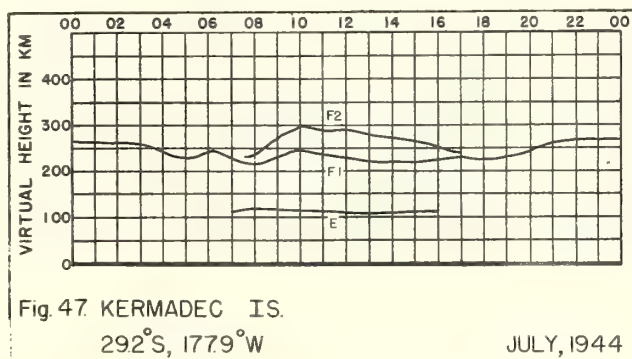
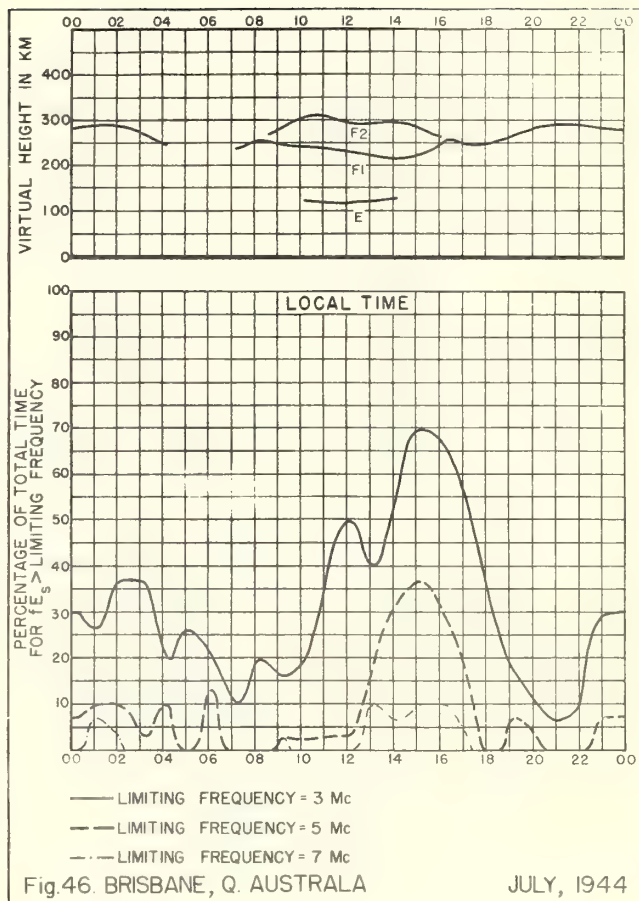
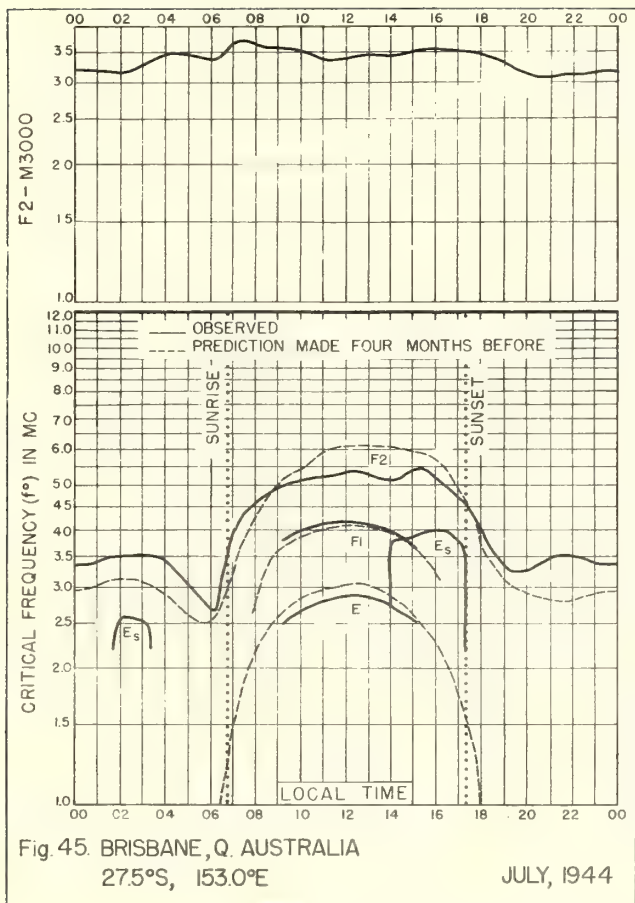


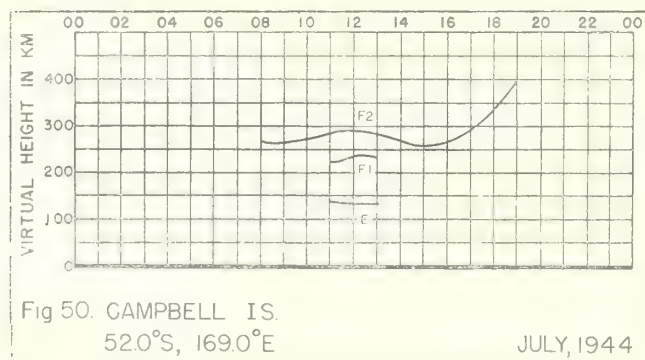
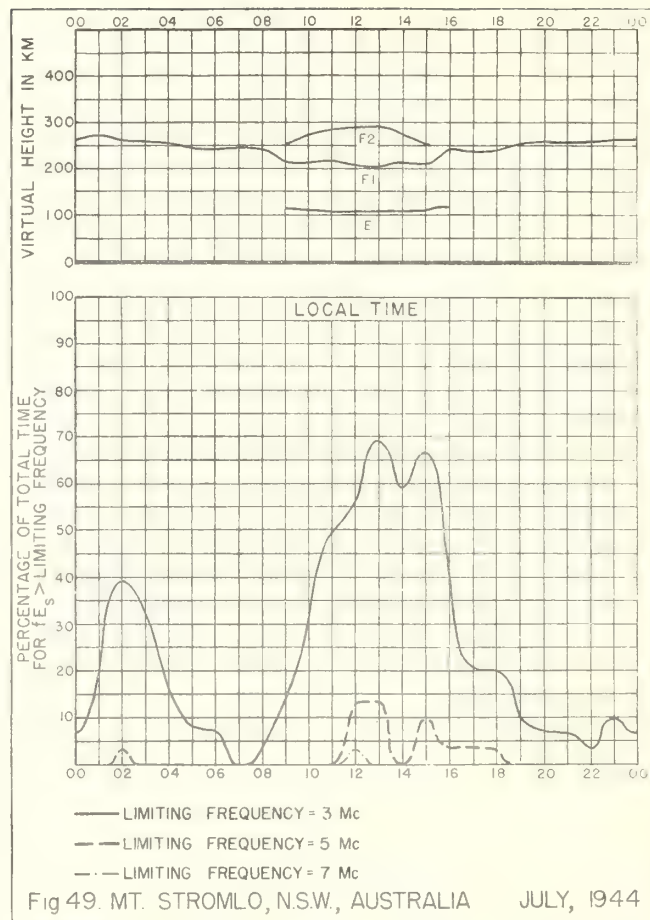
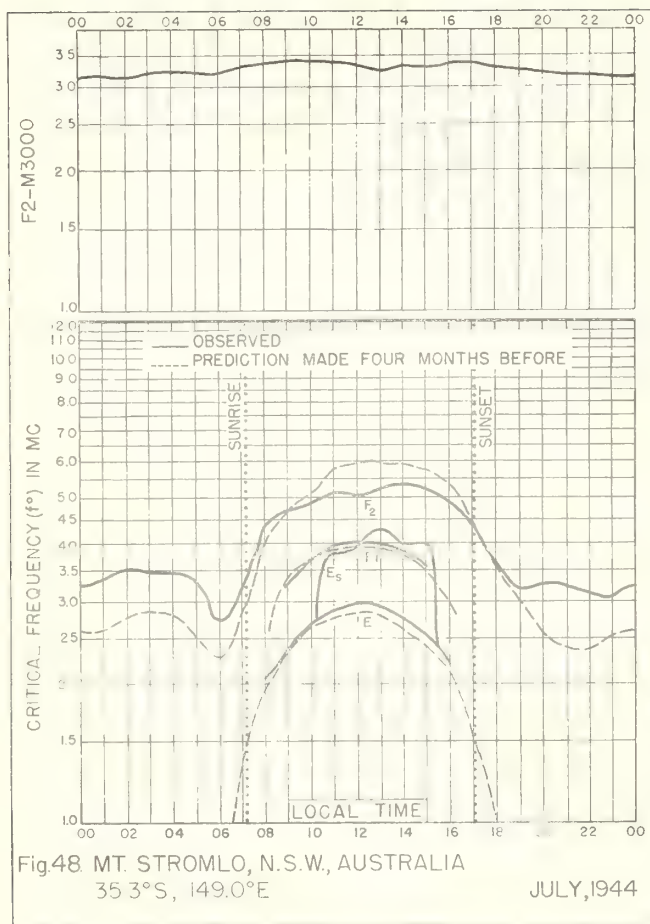
Fig 37 CAMPBELL IS.
52.0°S, 169.0°E

AUGUST, 1944









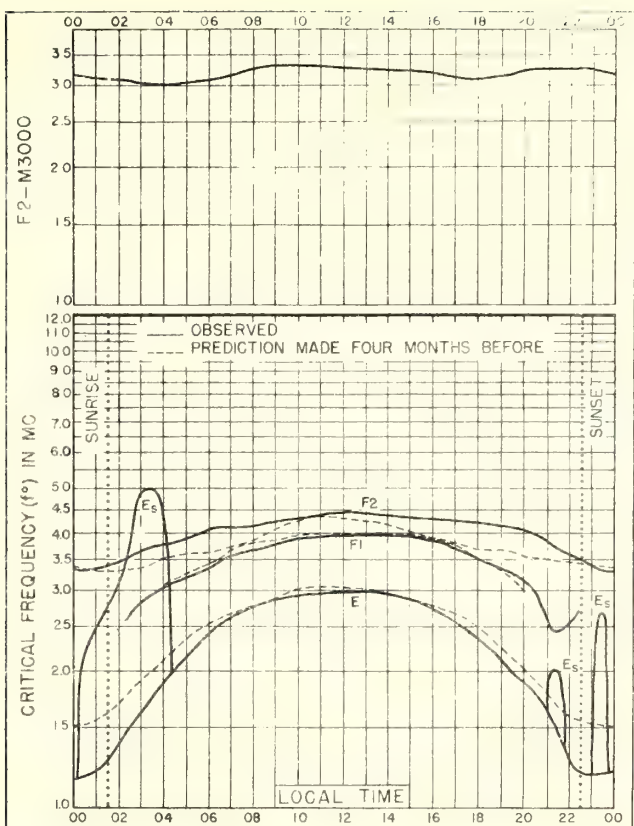


Fig.51. FAIRBANKS, ALASKA
64.9°N, 147.8°W

JUNE, 1944

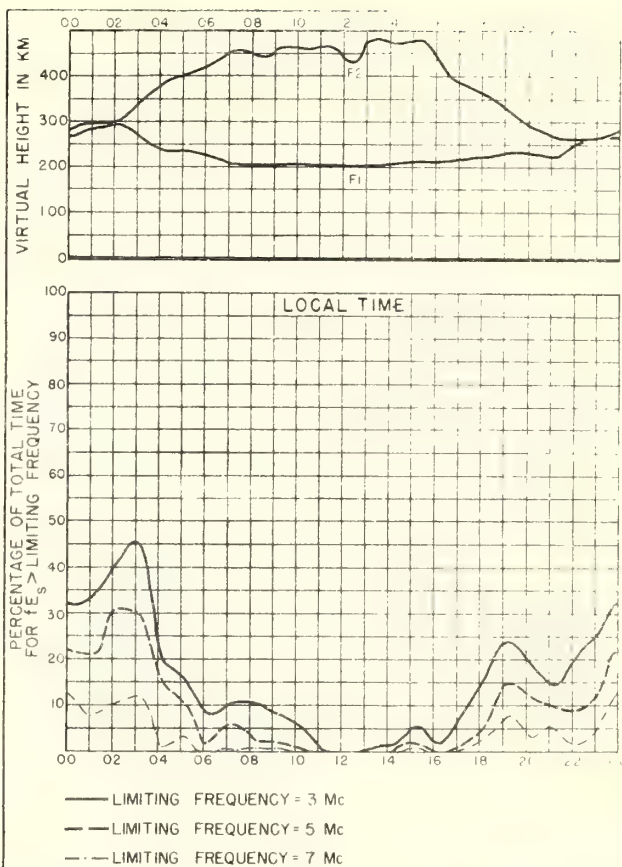


Fig.52. FAIRBANKS, ALASKA

JUNE, 1944

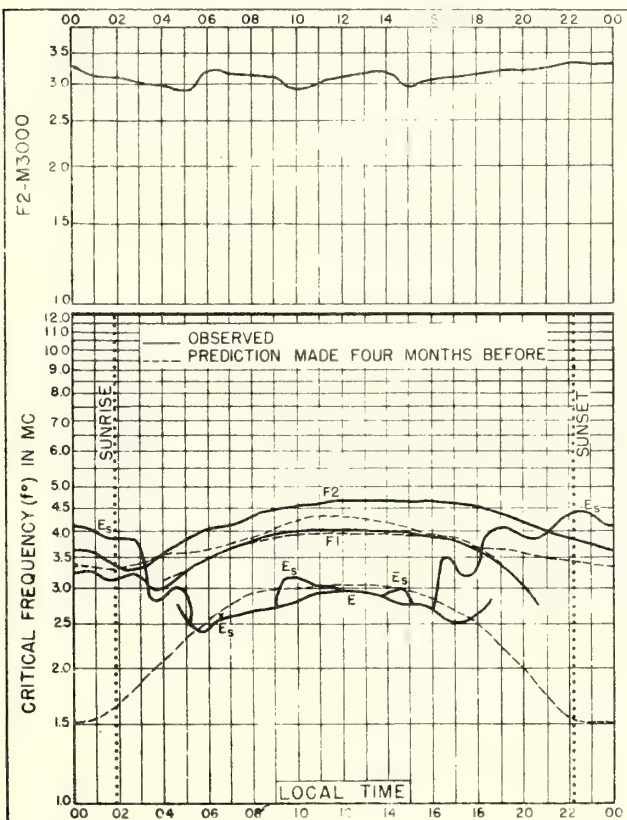


Fig.53. REYKJAVIK, ICELAND
64.1°N, 21.7°W

JUNE, 1944

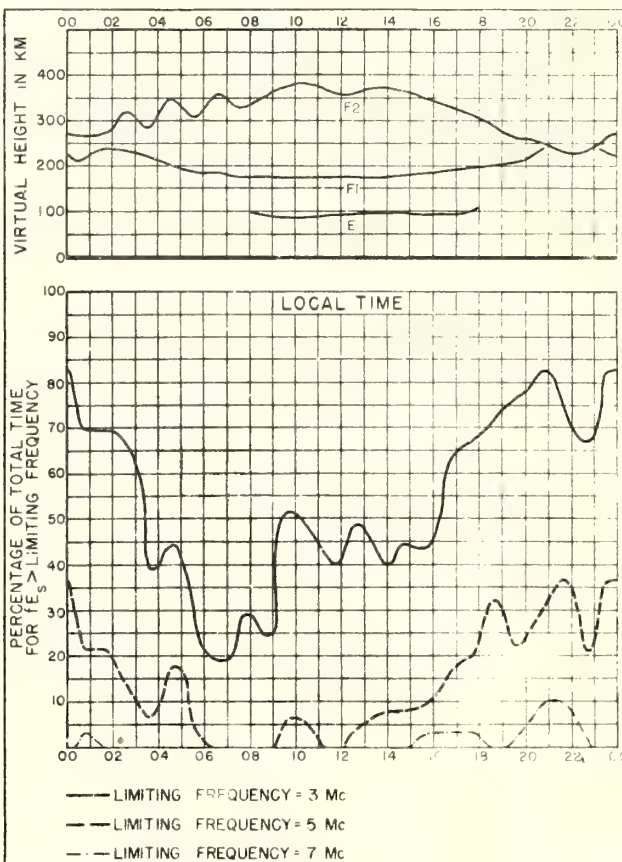


Fig.54. REYKJAVIK, ICELAND

JUNE, 1944

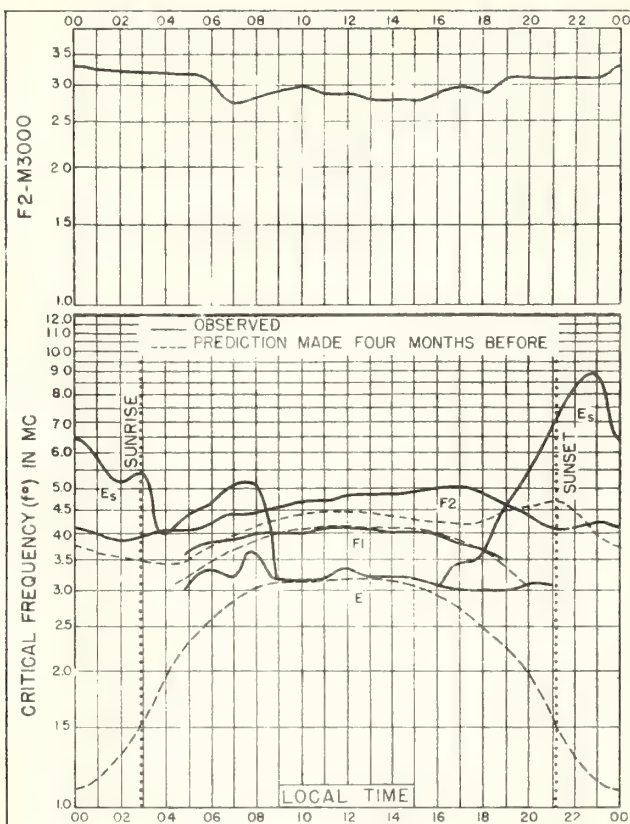


Fig.55 CHURCHILL, CANADA
588°N, 942°W

JUNE, 1944

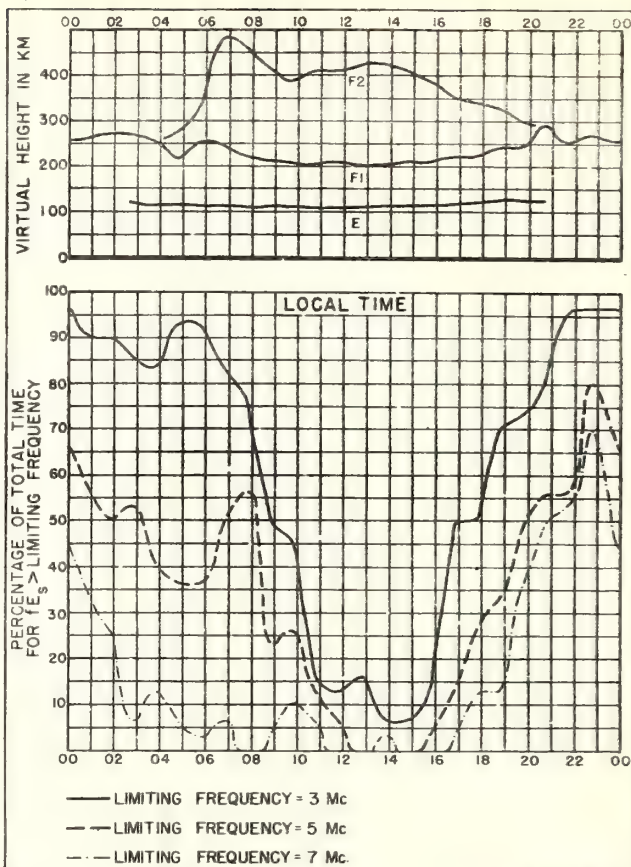


Fig.56. CHURCHILL, CANADA

JUNE, 1944

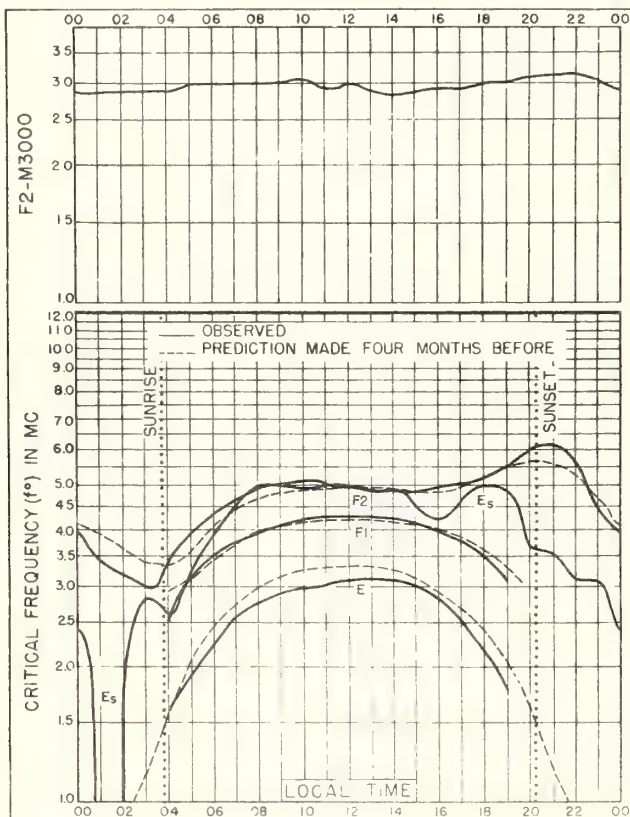


Fig.57. GREAT BADDOW, ENGLAND
517°N, 05°E

JUNE, 1944

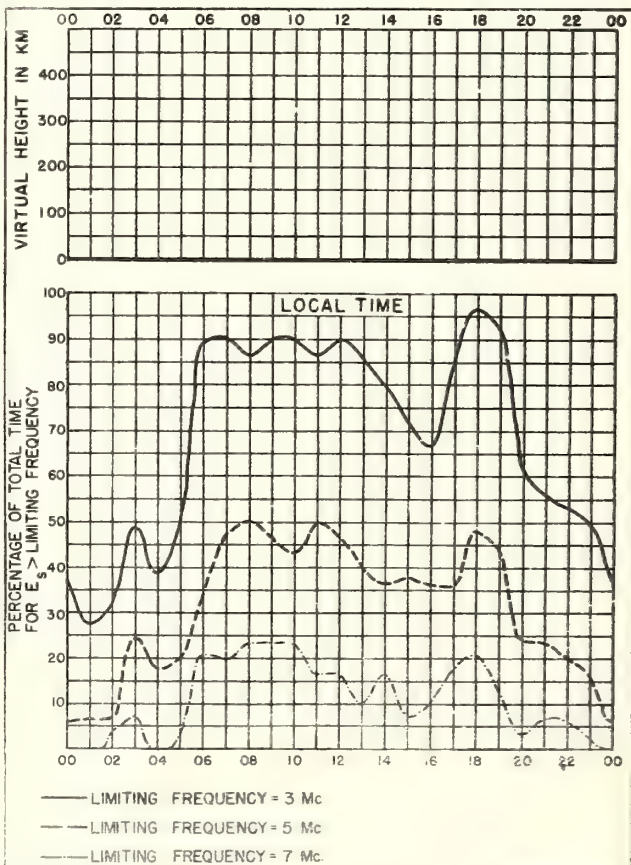


Fig.58 GREAT BADDOW, ENGLAND

JUNE, 1944

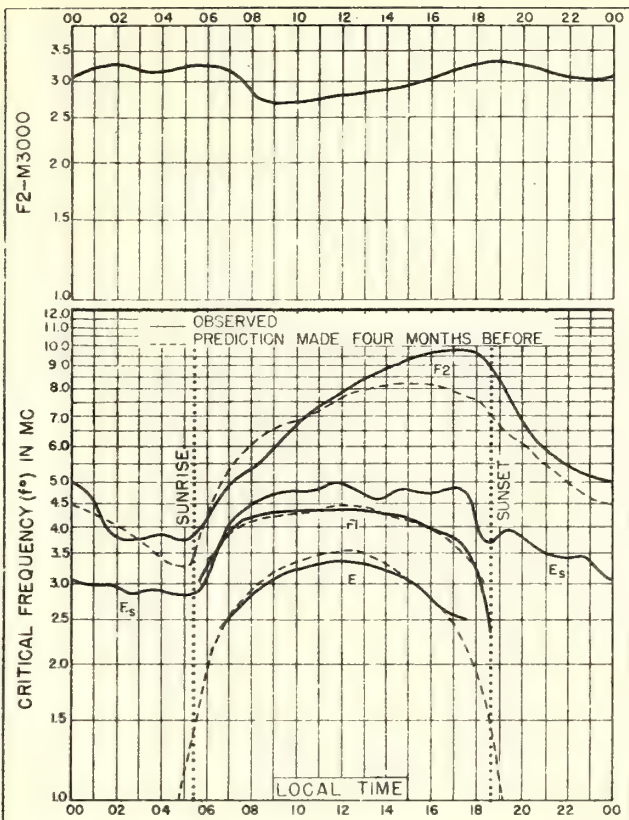


Fig.59. MAUI, HAWAII
208°N, 1565°W

JUNE, 1944

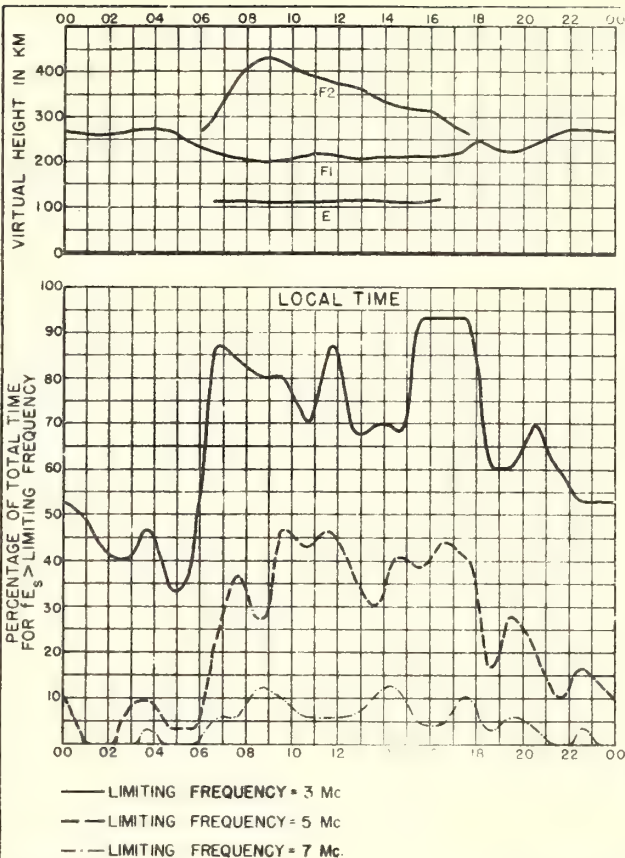


Fig.60. MAUI, HAWAII

JUNE, 1944

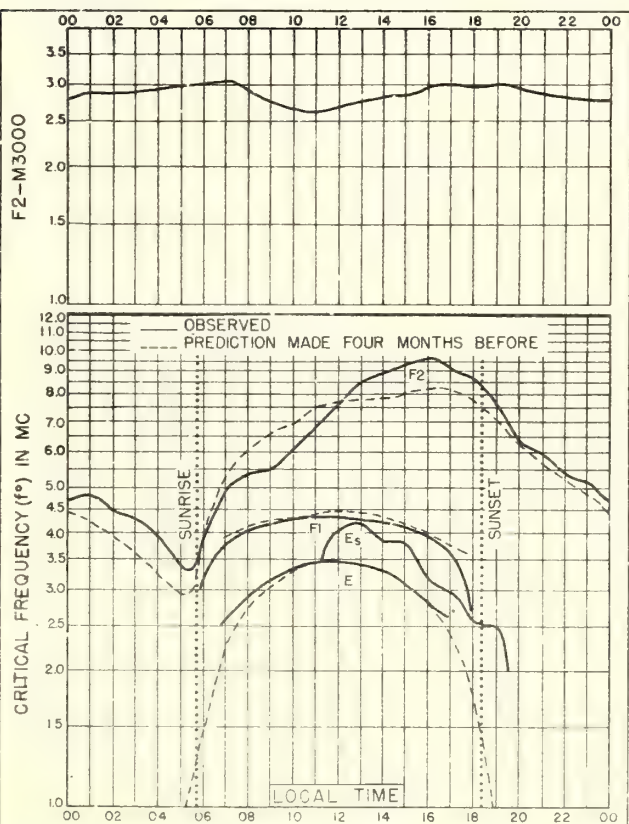


Fig.61. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.3°W

JUNE, 1944

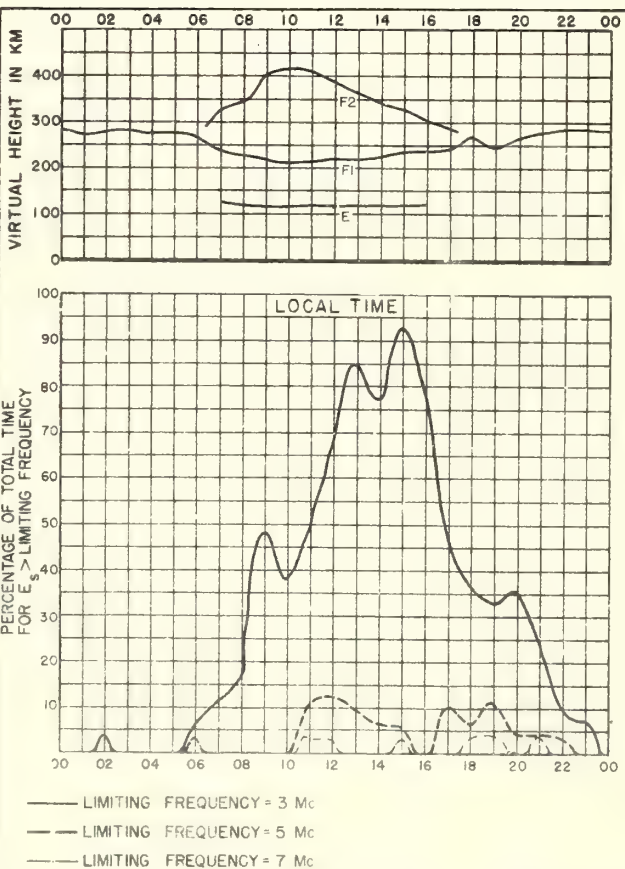


Fig.62. TRINIDAD, BRIT. WEST INDIES

JUNE, 1944

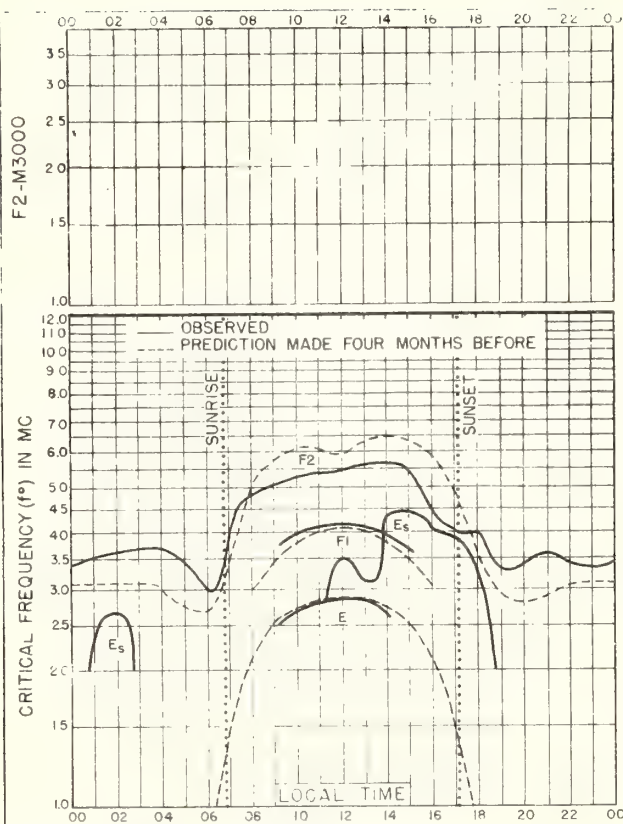


Fig 63. BRISBANE, Q. AUSTRALIA
275°S, 153.0°E

JUNE, 1944

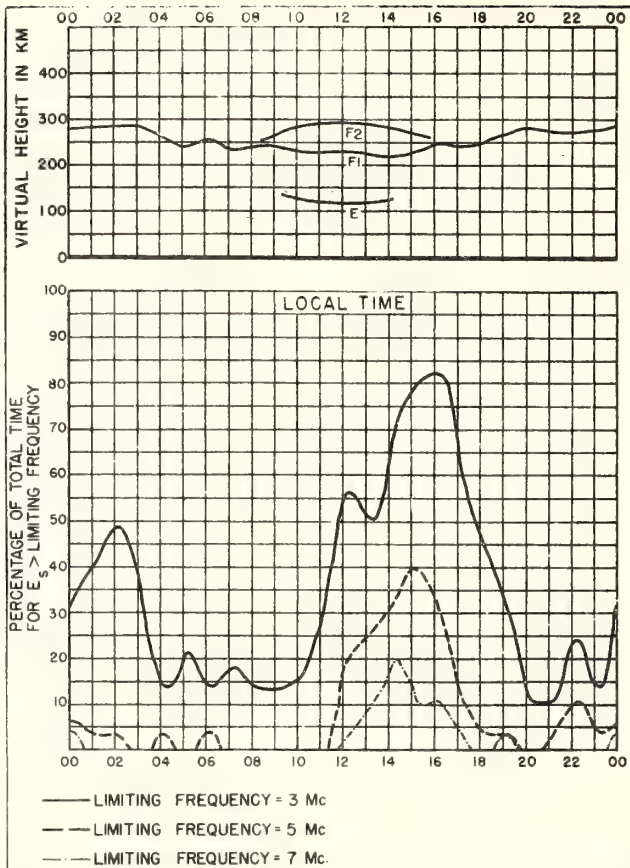


Fig 64. BRISBANE, Q. AUSTRALIA

JUNE, 1944

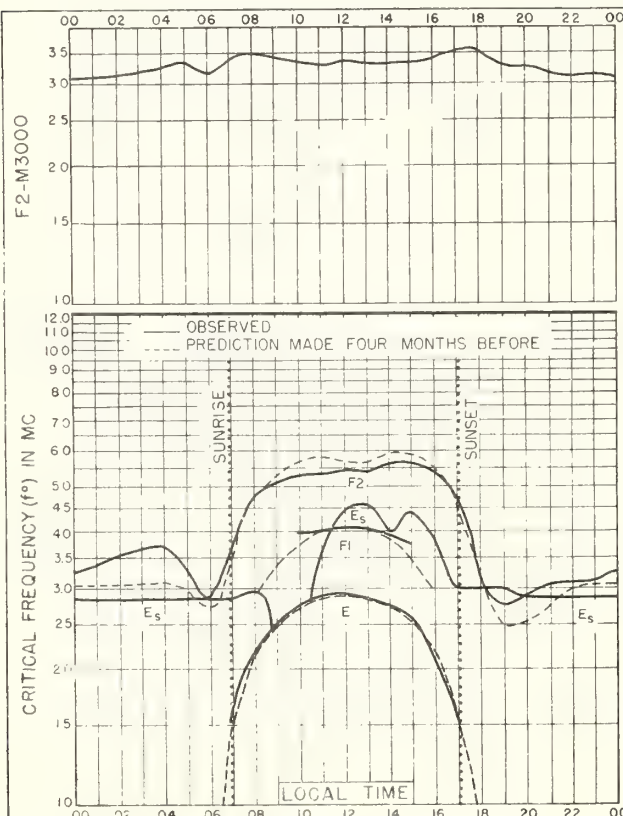


Fig 65. WATHEROO, W. AUSTRALIA
303°S, 115.9°E

JUNE, 1944

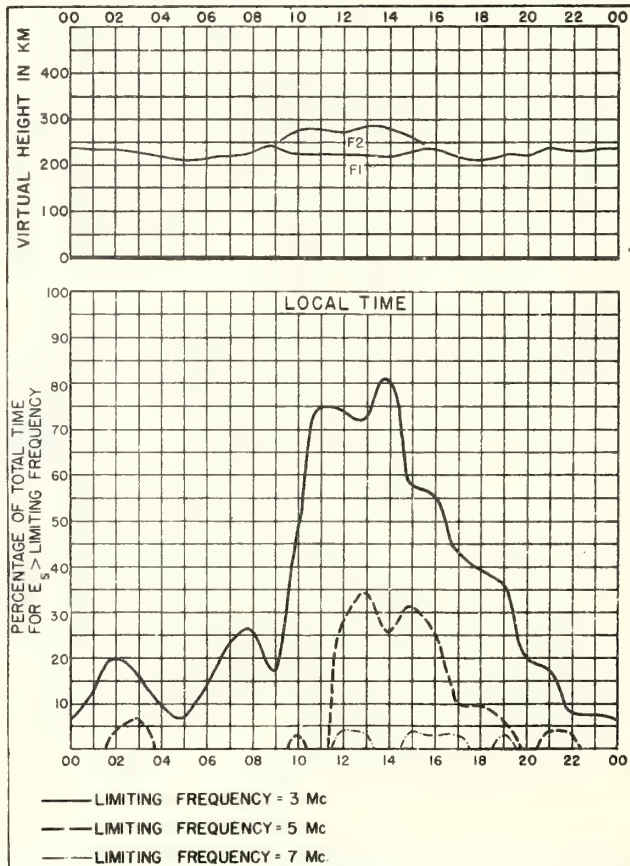


Fig 66. WATHEROO, W. AUSTRALIA

JUNE, 1944

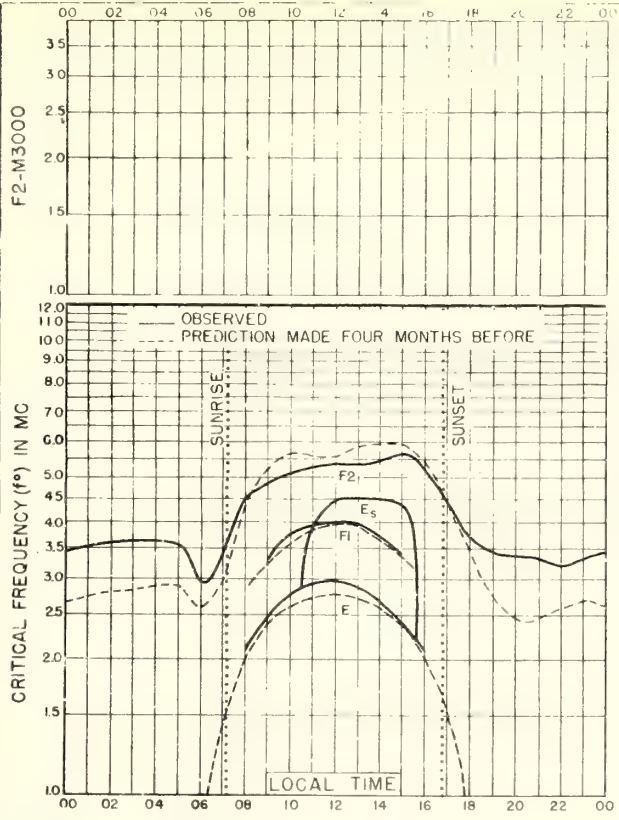


Fig67. MT. STROMLO, N.S.W., AUSTRALIA
353°S, 1490°E
JUNE, 1944

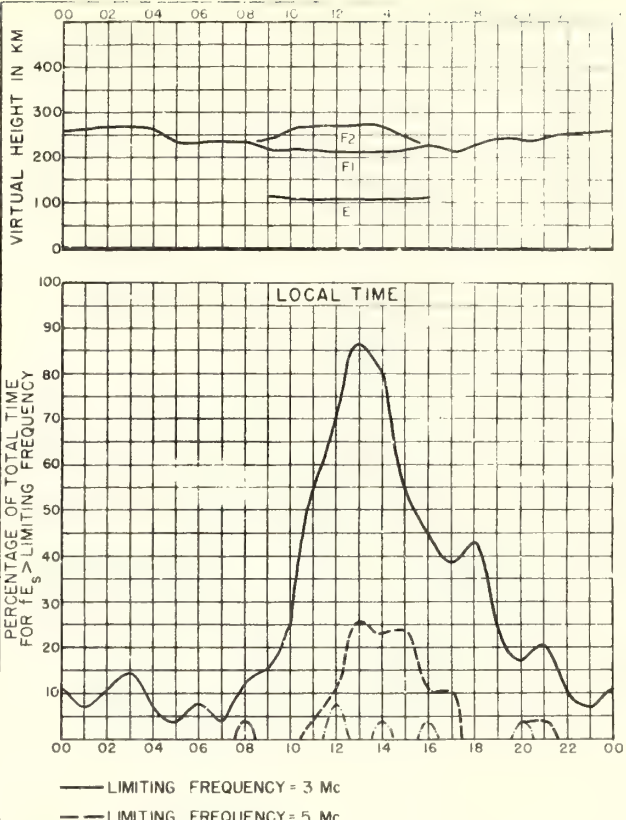


Fig68. MT STROMLO, N.S.W., AUSTRALIA
JUNE, 1944

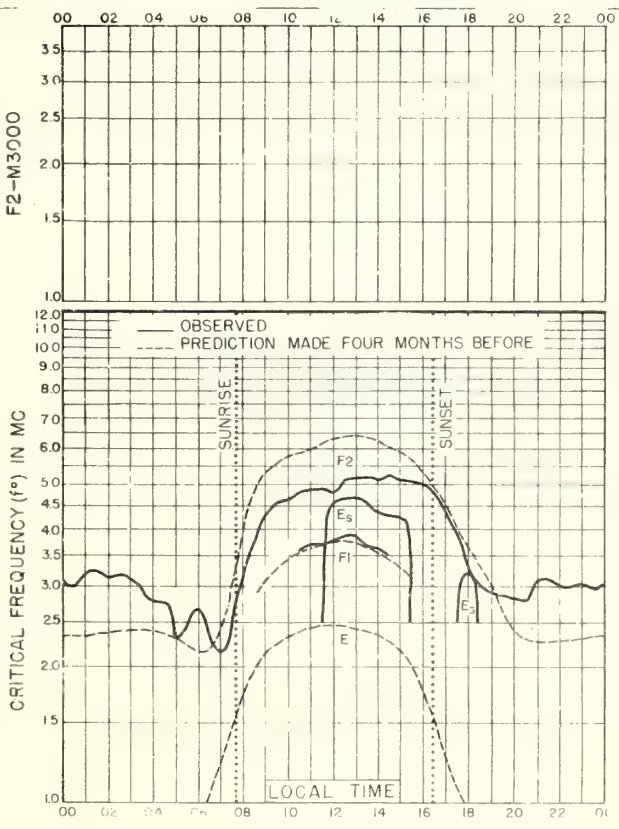


Fig69. CHRISTCHURCH, NEW ZEALAND
435°S, 172.6°E
JUNE, 1944

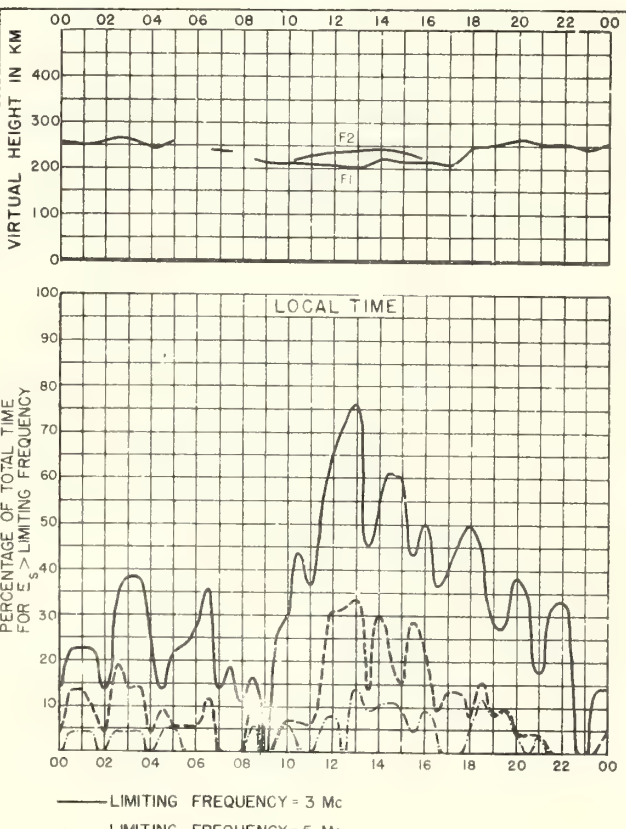


Fig70. CHRISTCHURCH, NEW ZEALAND
JUNE, 1944

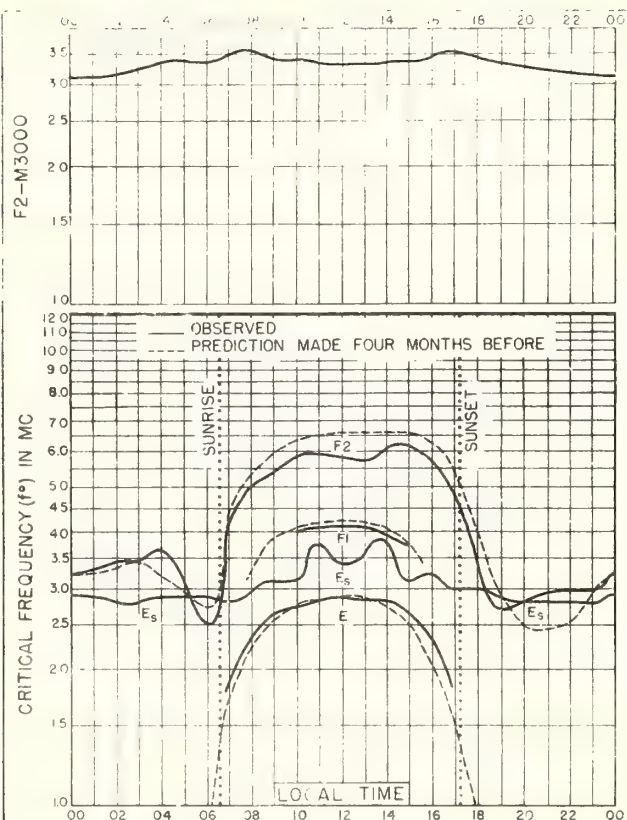


Fig. 71 WATHEROO, W AUSTRALIA
303°S, 1159°E

MAY, 1944

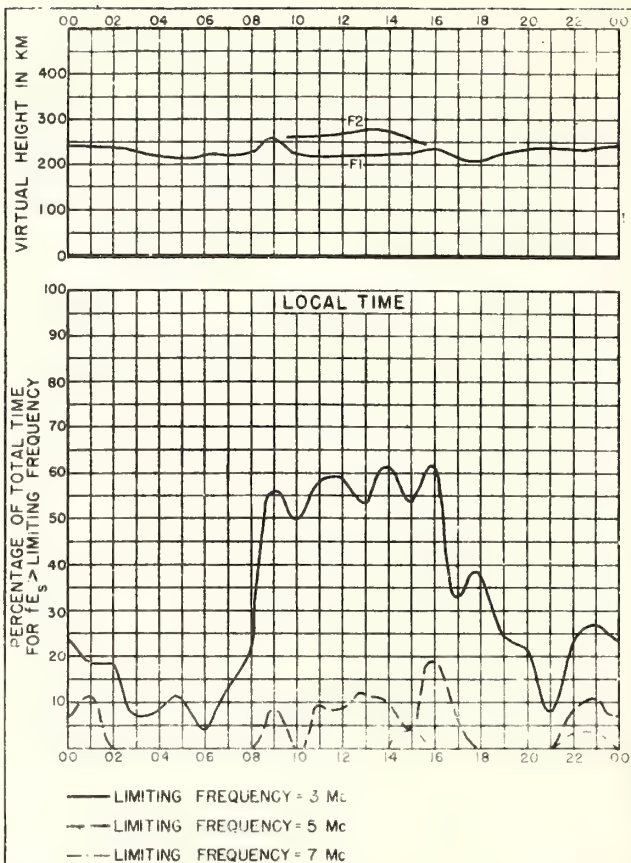


Fig. 72 WATHEROO, W AUSTRALIA

MAY, 1944

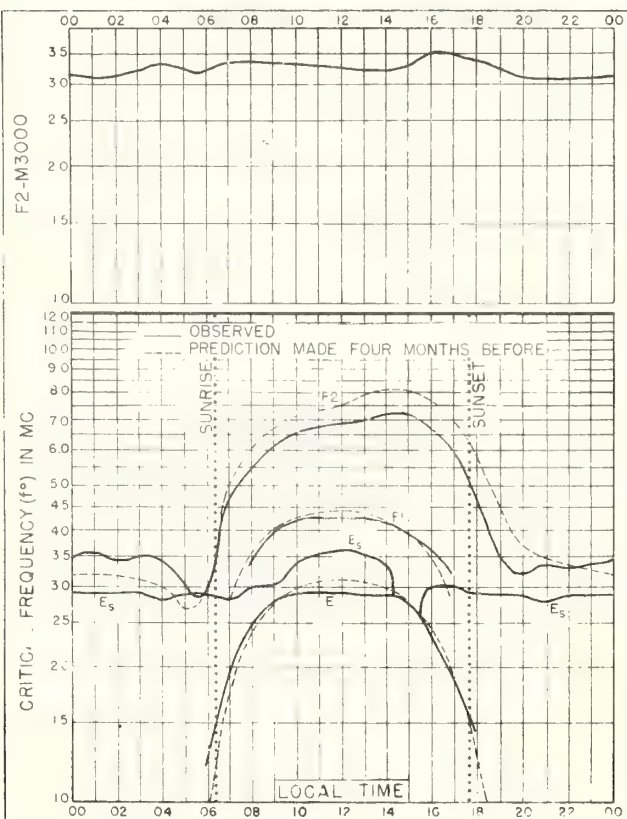


Fig. 73 WATHEROO, W AUSTRALIA
30 3°S, 115 9°E

APRIL, 1944

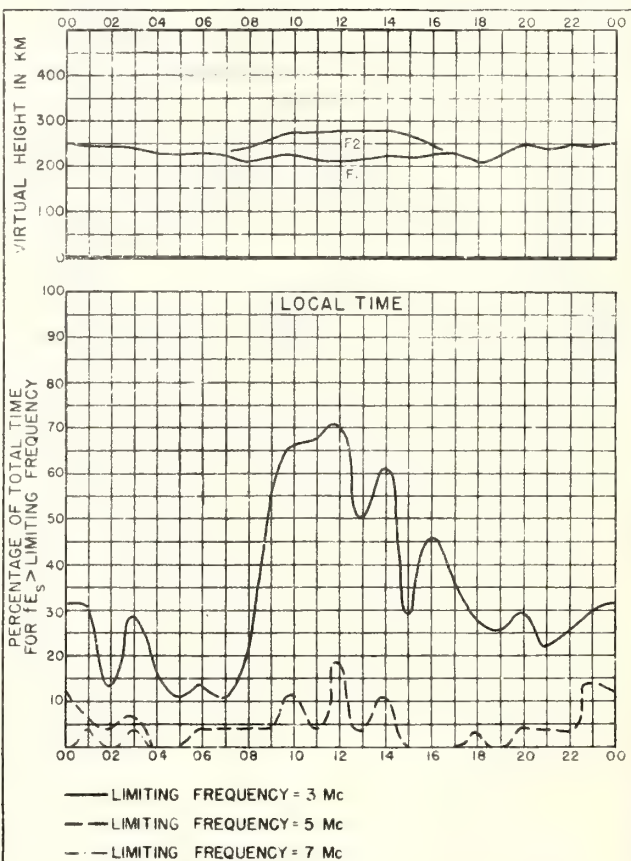
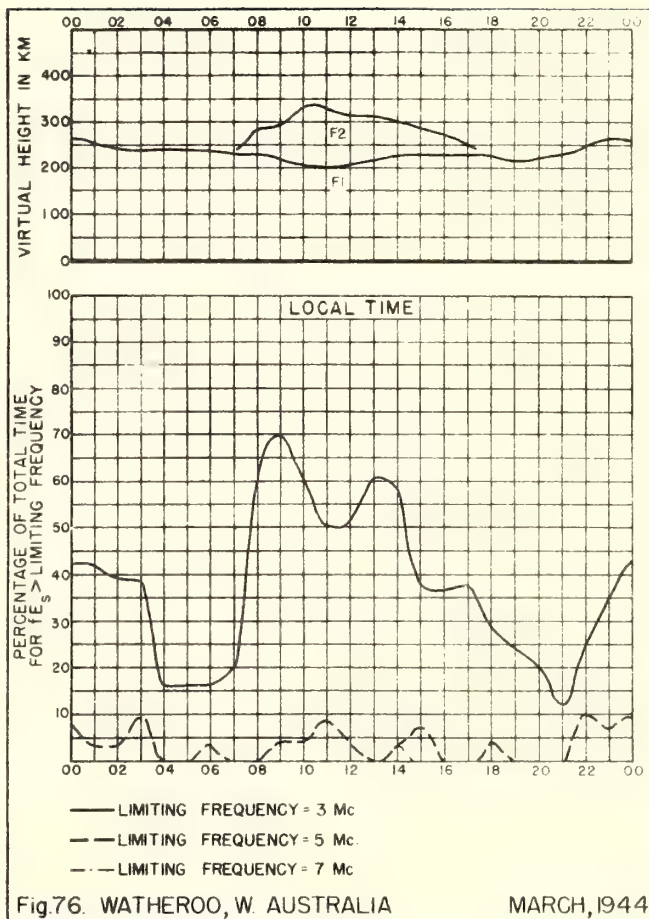
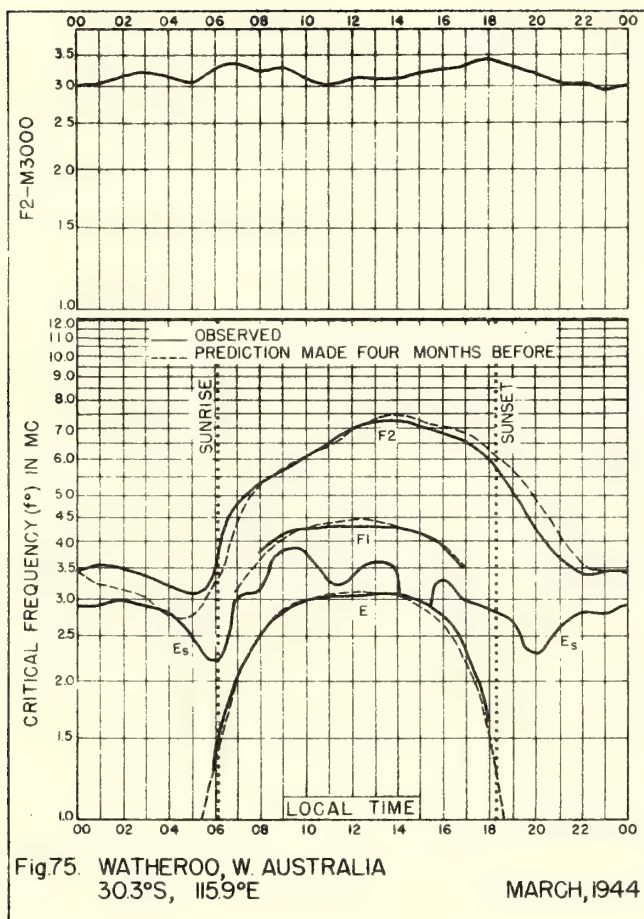
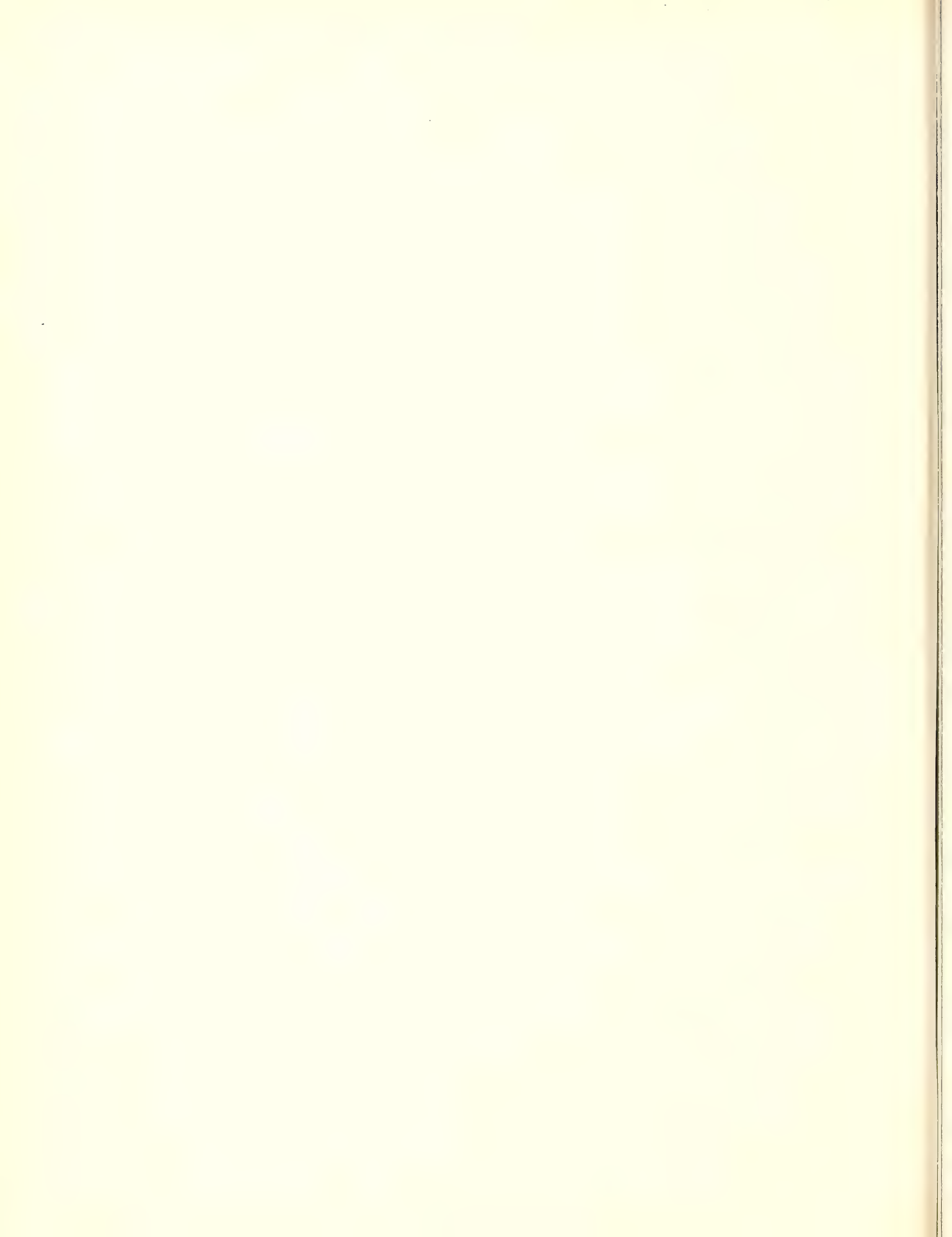


Fig. 74 WATHEROO, W AUSTRALIA

APRIL, 1944





IRPL REPORTS

Daily

Telephoned and telegraphed reports of ionospheric, solar, and magnetic data from various places.

Warnings of ionospheric disturbances.

Weekly

IRPL-J. Radio Propagation Forecast.

Monthly

IRPL-D. Basic Radio Propagation Conditions - Three months in advance.

IRPL-E. Radio Propagation Predictions - One month in advance.

IRPL-F. Ionospheric Data.

Bimonthly

IRPL-G. Correlation of D.F. Errors with Ionospheric Conditions.

Quarterly

IRPL-A. Recommended Frequency Bands for Ships and Aircraft in the Atlantic and Pacific.

IRPL-B. Recommended Frequency Bands for Submarines in the Pacific.

IRPL-K. Best Radio Frequencies for Aircraft and Ground Stations in the Atlantic.

IRPL-M. (WIMS APPENDIX N) Frequency Guide for Merchant Ships.

Semiannual

IRPL-H. Frequency Guide for Operating Personnel.

Special Reports, etc.

IRPL Radio Propagation Handbook, Part 1.

IRPL-C1 through C61. Reports and papers of the International Radio Propagation Conference, 17 April to 5 May 1944.

IRPL-R. Unscheduled reports.

R1. Maximum Usable Frequency Graph Paper.

R2 and R3. Obsolete.

R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies.

R5. Criteria for Ionospheric Storminess.

R6. Experimental studies of ionospheric propagation as applied to a navigation system.

IRPL-T. Reports on Tropospheric Propagation.

T1. Radar Operation and Weather.

T2a. Radar coverage and weather.

